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Telecommunications

JPRS-TTP-90-005 *17 May 1990*

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ZIMBABWE

Japanese Firms To Upgrade Zimbabwe PTT Network

90AN0176 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 5 Feb 90 p 19

[Article: "Japanese Funding for Network Upgrading"]

[Text] In November 1989, Japanese funding of 4.89 billion yen was awarded to the Posts and Telecommunications Corporation (PTC) of Zimbabwe for the procurement and installation of digital equipment and optical fibre cables for the existing network in Mashonaland and Manicaland. The contract was signed on November 6th, 1989 by the postmaster general, Mr Raymond Mutambira on behalf of the PTC, and Mr Koya Mita, managing director of C. Itoh and Co. Ltd, the main contractor representing Fujitsu and Fujikura of Japan.

The work involves the installation and commissioning of 140 and 35 Mbit/s transmission systems on optical fibre routes totalling 192 km in the Greater Harare area. Aerial distribution optical fibre links will also be installed to connect Penhalonga and Dangamvura to Mutare trunk local exchange.

Digital exchanges are to be installed in the following areas:

Exchange	Number of Subscriber Lines	Number of Trunk Lines
Harare trunk		10,000
Mutare trunk/local	10,800	
Avondale local	17,000	
Borrowdale local	7,000	
Highlands local	12,000	
Cranborne local	6,000	
Chinhoyi trunk/local	3,000	
Glenview local	15,000	
Unit 7 local/transit	21,700	10,000
Kuwadzana local	8,000	
Marondera trunk/local	3,000	
Total	103,500	20,000

The exchange lines include the subscriber lines provided from remote line unit (RLU) exchanges connected to some of the parent exchanges.

The telecommunications network in Zimbabwe is currently undergoing a rehabilitation and extension programme under the second telecommunications project, for which funding was first sought from various countries in January 1989. In March 1989 the European Investment Bank (EIB) approved a loan of ECU 18 million for the ECU 50 million project, which is cofinanced by aid from Denmark, France and Japan, and comprises the most urgent components of a five-year investment programme of ECU 192 million, for which additional funding is being provided from several EEC member-states (Belgium, Denmark, France, Germany and Italy), as well as from Norway, Sweden, Canada and Japan.

AUSTRALIA

Telecom Australia's Broadband Switched Data Service

90AN0241 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 5 Mar 90 pp 11, 14-15

[Text] The world's first broadband switched data service is to be provided by Telecom Australia, the company recently announced. In-house trials of the service—FASTPAC will be its eventual marketing name—are to begin within the next four to five months, with customer trials due for a year later and full commercial rollout in the second half of next year.

Australia's domestic PTO says that it will invest A$75 million in the 1990-93 timeframe to commercialise the fast packet developments of QPSX Communications, a company in which it holds a 74 percent stake (with the remainder held by Unicom Research Pty). An in-house pilot network, ALICE, is being installed (underway since April 1989) and will utilise equipment manufactured by QPSX conforming to the standard it pioneered, now recognised as the IEEE 802.6 or Metropolitan Area Network (MAN) standard.

MAN technology uses a Distributed Queue Dual Bus (DQDB) network topology combined with Asynchronous Transfer Mode switches to direct packets between designated locations/stations. DQDB provides fair access to all network stations for buses as long as several hundred kilometres. ATM switches operate independently of the service (voice, data, video) bit rate. Bits generated by a service are accumulated until they fill a short, fixed length packet or "cell" which, when full, is sent over the fibre-optic network with a label which logically connects it to the service. The different service types can be multiplexed by ATM multiplexers. Once a full cell enters the network the next cell is ready to accept bits.

One MAN packet has a cell with a 48-octet payload, which defines the "message", and a 5-octet header containing identifiers for the packet. The payload and header together comprise the packet, and each fast packet fits into a "slot" of a 125-microsecond frame. The number of fixed length "slots" in the frame depends on the line speed of the transmission system, and the 802.6 specification defines a 69-octet slot length.

Access to a slot is determined by the Distributed Queuing (DQ) protocol, which utilises "empty" and "busy" bits to indicate the accessibility of a given slot. Request bits indicate to other nodes in the network that a particular node wishes to transmit data. The empty, busy, and request bits are encompassed in the packet's header.

The DQ protocol operates over the entire DQDB system and thus ensures that each node on the bus is aware of its position in the queue for access to the next available slot on that particular bus.

MANs have two buses (or dual bus), each one operating in a different direction to allow duplex operation between all nodes distributed along the length of a bus, and each node reads information flowing past itself and other nodes in each direction.

A MAN as envisaged by QPSX comprises a number of building blocks such as access clusters and routers. An access cluster is a collection of access units which connect end users to the local loop of the network. The access clusters house applications interfaces with applications supported including MAC level bridges for Ethernets and Token Rings.

Routers provide connectivity between the dual-bus systems and are critical elements in the provision of a nationwide service. Routers effectively connect LANs to the MAN. Different routes are used to perform routing for a nationwide/WAN service.

A network management centre sits at the heart of the network.

The ALICE network, which is acting as a testbed for the nationwide FASTPAC service, interconnects 15 Ethernet LANs across Telecom Australia locations in the Melbourne metropolitan area with sufficient bandwidth provided to allow through-put performance high enough to allow ALICE to appear transparent.

Initially, Telecom wanted to provide an Internet Protocol over Ethernet gateway to the network but this was unpopular with the LAN users. Accordingly, a learning MAC layer gateway allowing later adoption of any higher layer protocol stack. [sentence as published]

A videoconference service over Ethernet was selected as the best mode of further demonstrating the flexibility and performance of the MAN. Although Telecom has a joint-venture agreement with Texas Instruments Australia to develop digital codecs—for converting a vision signal into digital code—for the FASTPAC network, these will not be available until early 1991. Consequently, standard 2 Mbit/s videocodes will be used with their streams packetised before transmission over ALICE, with a high-level signalling protocol to be developed to control the video service. A proprietary terminal is to be used as the video workstation.

ALICE is also to support the multiplexing of 2 Mbit/s synchronous services which, Telecom says, could be an economic way of providing Primary Rate access to the ISDN and as the access for 2 Mbit/s leased circuit services. However, since a synchronous bridge has yet to be developed that is more flexible and simple to control than packet-based bridges, synchronous services will

only be supported in the customer access segments of the network with the switched services remaining packet-based.

Following the ALICE MAN trial within Telecom itself, a commercial trial is scheduled to begin in mid-1991 and will test service parameters with customers in Sydney, Melbourne, and other main cities. Ultimately FASTPAC will provide nationwide interconnection of LANs via the MAN and WAN hierarchy. Connection to FASTPAC is designed to be simple—users only require a standard LAN interface and initially both Ethernet and Token Ring interfaces will be supported by FASTPAC. Telecom says it will develop interfaces for other networks, such as FDDI and Token Bus, as need arises.

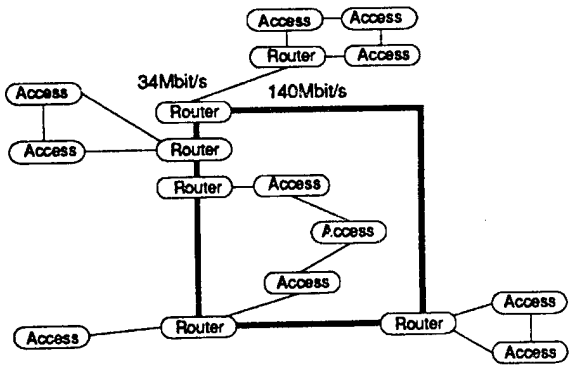
FASTPAC will also allow users a high degree of network management, developing facilities such as fault management, on-line service enquiry and ordering, billing enquiry and configuration management as the service evolves.

Charging for use of the service will be volume- or usage-based so that users only pay for what network time they use, and other benefits expected by Telecom include cost savings from real-time communications.

Applications especially suited to FASTPAC will include banks, electronic clearing of images of cheques instead of time- and labour-intensive manual processing, the health industry, electronic transfer of health records including X-rays, CAT scans etc, manufacturing companies with CAD/CAM file transfer, and numerous others.

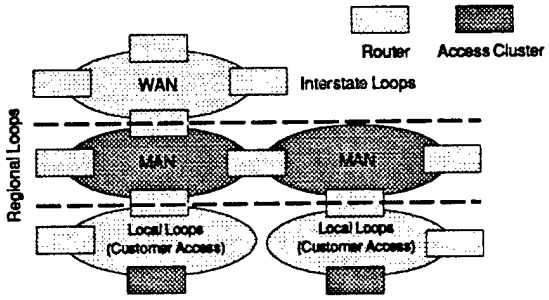
One additional possibility of FASTPAC is particularly interesting: Telecom says it will open up the possibility of establishing closed-user groups within the network in a type of virtual private network setup. Users of one VPN would be unaware of and unaffected by the existence of another VPN on the FASTPAC network.

ALICE Network Configuration



Source: Telecom Australia

FASTPAC network topology



Source: Telecom Australia

Australian Firm Makes Cambodia, Vietnam Deals

90AN0242 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 5 Mar 90 p 15

[Article: "OTC To Link Cambodia to Outside World"; all figures are in Australian dollars]

[Text] Worldwide telecommunications are to be provided to the troubled country of Cambodia by OTC International, the international operating subsidiary of Australia's international PTO, OTC Limited. OTC and the Cambodian Directorate of Posts and Telecommunications (DPT) signed a "commercial arrangement" recently in Phnom Penh, Cambodia's capital, although no monetary value was placed on the 10-year agreement. This confirms an INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE report from September last year.

OTC said the first stage of the project would be to install a Vista-type satellite earth station in the capital, with procurement and construction to commence shortly. This new station will connect Phnom Penh to Australia via the Intelsat system and, thence, via OTC's international network, to other worldwide destinations. (Cambodia currently has access to international links via the Intersputnik satellite system operated by the USSR.)

The Cambodian network will be complemented later on in the project by a Standard-A earth station and switching capabilities with necessary training and network planning.

Although no details were given on the cost or financing of the project, which INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE believes will cost $9.5 million, OTC indicated that investment costs would be "shared", as would revenues from international telecommunications traffic.

Vietnam Update

OTC also indicated recently that its Vietnamese project was proceeding almost as planned. Three earth stations have already been completed and a fourth is due for

completion in Hanoi this month, slightly after the anticipated date of the end of 1989.

OTC is upgrading the satellite system in Vietnam under a six-year contract signed in October 1988, providing direct telephone links, initially, to Thailand, Japan, Singapore, Hong Kong, Canada, France and the UK.

OTC also has a $1.7 million contract to construct an earth station in Laos. Funding for the project is from the Australian Development Assistance Bureau.

The company also recently secured a 40 percent stake in one of Thailand's leading telecommunications service companies, Samart Telecoms, and the partnership is currently developing a high-speed digital satellite network based on 18 teleport centres throughout the country.

NEW ZEALAND

New Zealand To Privatize Telecom Corporation

90AN0279 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 9 Apr 90 pp 15-16

[Text] An economic statement read in the New Zealand House of Representatives at the end of last month by David Caygill, the minister of finance, signalled the privatisation of Telecom Corporation of New Zealand—immediately causing controversy as the Labour Party, the country's current ruling political party, in its 1987 election manifesto had declared that Telecom would not be sold.

The Government's equity in Telecom, valued at the end of March 1989, stands at NZ$2,400 million. In December 1987, it announced a programme designed to retire, by December 1992, one third of the public debt—NZ$42,000 million in March 1987—through a series of privatisations, to include the railways and the three international airports. Telecom was also included in this programme, and it is hoped that the proceeds of the sale will enable "a substantial reduction" in the level of public debt. All of the NZ$2,400 million will be used to repay the debt, and the government is "confident of realising considerably more than this amount." Any excess proceeds will be divided between capital investment in the health and education sectors and the retirement of further debt.

The privatisation will be conducted in two phases. A stake will be sold to a strategic buyer in the first phase, while a number of shares will be retained for public sale both in domestic and foreign markets. "The aim will be to sell at least NZ$500 million worth of shares domestically and more if market conditions persist. "The minister for state-owned enterprises, Richard Prebble, said that an international offering in Australia, the UK, Europe, the US and Asia would ensure strong support for the shares.

However, the sale to a strategic buyer is to be made subject to certain conditions and may involve either "a single buyer or a consortium, possibly combining domestic and international interests." The foreign buyer(s) can purchase 100 percent of the available shares in one go but must agree to on-sell at least NZ$500 million in the domestic market, as was done in the case of Air New Zealand.

"Foreign buyer(s) of a strategic stake will, however, be restricted to an ultimate ceiling of 49.9 percent of the shares," Mr Prebble said. Additionally, the government will retain a single, special rights preference share which will impose controls over the ownership structure of Telecom. This will be known as the "Kiwi" share and the holder of this share will have to be approached by any strategic stakeholder wishing to transfer any shares to a non-New Zealand company.

The Kiwi share will also be used to give the Crown veto rights to ensure that any telecommunications company holding shares in Telecom does not discriminate in Telecom's favour at the expense of other New Zealand telecommunications operators.

Indeed, the Government is determined to preserve the competitive environment which has evolved as a result of the new telecommunications regulations introduced in April 1989. Since then several companies have announced their intentions to provide long-distance services in competition with Telecom, while competition already exists in telephone equipment (handsets, PABXs and KTSs) supply and installation.

The US long-distance carrier MCI is reported to be planning services with the NZ railways authority, as MCI Todd Communications Ltd, while the NZ Airways Corp, AUSSAT and Telpac, all announced long-distance plans last summer.

Mr Prebble added that "the threat of competition, even in those parts of the market where it does not yet exist, generates a healthy restraint on Telecom's behaviour."

The crucial factor in the Government's decision to privatise was Telecom's promise that telephone rental increases would be less than the increase in the Consumer Price Index, that free local calls for residential customers will remain an option for the foreseeable future, and that it would continue to provide nationwide services for the 98 percent of households which currently receive a service, including a full service for rural customers. Although Telecom added a proviso that the restriction on telephone rental increase could only be implemented providing the company's overall profitability is not significantly impaired, Mr Prebble said that TCNZ is confident that its pledge is realisable.

Press reports subsequently suggested that British Telecom, Telecom Australia, AT&T and NTT are likely candidates for purchasing the share.

The country's main opposition party, the Nationals, responded to the government's plan by stating that it is totally against the plan but would not renationalise the company. However, it also indicated that it might introduce legislation to oblige any foreign stakeholder to reduce its share to 24.9 percent.

VIETNAM

Australia's OTC Completes Earth Station

90AN0257 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 26 Mar 90 pp 19-20

[Article: "Vietnam: OTC Completes First Phase of Business Agreement"]

[Text] Australia's OTC International recently opened the last of three new earth stations which it has built under a 1988 Business Cooperation Contract with the Directorate General of Posts and Telecommunications of Vietnam.

This latest Intelsat Standard A earth station will initially link Hanoi, via an Indian Ocean region Intelsat satellite, to Australia, Hong Kong, Thailand, Japan, France and the United Kingdom. It will carry voice and telegraphic traffic in both analogue and digital transmission modes, and include a two-way television link.

The Hanoi earth station will initially accommodate 105 circuits, 66 of which are domestic circuits between Hanoi and Ho Chi Minh City where the other two earth stations were constructed and opened by OTC last year.

This brings to four the number of satellite earth stations that the OTC has built in Vietnam. The first was constructed in Ho Chi Minh City in 1987 and provided Vietnam access for the first time to an Indian Ocean satellite operated by Intelsat.

OTC International said its involvement in the Vietnamese telecommunications sector includes the establishment of correspondent relations with telecommunications administrations in other countries; assistance in the management and maintenance of the international network; and the sharing of revenues from international telecommunications traffic settlements to Vietnam over a six-year period.

In addition to the establishment of Intelsat satellite facilities, OTC International has cooperated with the Directorate General in:

- The supply of 1.3 million Australian dollars worth of digital microwave radio equipment from AWA Australia for upgrading transmission systems in the Mekong Delta;
- The installation of a new PABX in Ho Chi Minh City GPO;
- The training of staff in earth station operations, financial management and planning;
- The preparation of a strategic plan for the development of Vietnam's telecommunications network to the year 2005.

OTC International and the Directorate General are discussing proposals for future investment to expand cooperation.

According to OTC, the two priority projects are a fibre-optic link between Hanoi and Ho Chi Minh City for more efficient communications between the two cities and a telephone exchange centre to improve communications within Ho Chi Minh City.

INTRABLOC AFFAIRS

East European Telecommunications Developments

90AN0274 Chichester TELEFACTS in English Mar 90 pp 4-8

[Article: "Round-Up of Eastern Bloc Contracts"]

[Text]

Bulgaria

The Bulgarian PTT is considering installing telephone kiosks in Sofia and other major towns and cities. The kiosks will be operated by magnetic phone cards and will allow calls to be dialled internationally.

Telefonica of Spain is understood to be holding discussions with the PTT with regard to supplying the equipment.

Czechoslovakia

The Business Communications Division of Ericsson has broken into the East European market with an order placed by Brno Fairs, one of the largest exhibition organisations in the region.

The SKr 17 million ($2.6 million) contract is for the supply and installation of an MD110 digital private communications system for simultaneous transmission of voice and data. Installation of the system is expected to be completed in July 1990.

According to Ericsson, the system will be the largest digital private communications system for voice and data in Czechoslovakia.

Rogers Telecommunications Inc. of Toronto, Canada, with subsidiary Rogers Cantel Incorporated, Canada's only nation-wide cellular telephone company, is now confirmed as planning to join forces with BT to set up a cellular telephone network in Czechoslovakia.

Rogers met Czechoslovak President Vaclav Havel in Ottowa two weeks ago to discuss a contract. No details are yet available, but Czechoslovakia's trade commissioner to Canada, Miroslav Okrouhly said that the talks with Rogers and British Telecom are still at an early stage. The new government had made the contract a priority and it was speaking with Canadians because of Canada's "leadership in this technology". The talks are part of discussions with several companies in different countries as part of a plan to redesign Czechoslovak telecommunications services.

Also in Czechoslovakia, a United States investment company, Moran and Associates Inc., of Greenwich, Connecticut, has an agreement with the new government of Czechoslovakia to set up a consortium to build and operate a cellular telephone network in the country, with a 25-year licence franchise.

East/West Germany

West German Telecommunications Minister Dr. Christian Schwarz-Schilling and his East German counterpart, Dr. Klaus Wolf, have agreed on a high priority plan to improve communications links between the two countries. Extensions of the network between the two countries will include the immediate increase of direct dialling lines to 284, with further extensions on the network of around 200 at a later date, as well as earmarking 18 containerised exchanges, each with between 18,000 and 20,000 lines located at strategic points in the East German PSTN [public-switched telephone network].

Siemens AG of Munich, West Germany, is expected to play a leading role in rebuilding East Germany's telecommunications infrastructure, according to European industry observers.

Against the backdrop of liberalisation in central Europe, government leaders in both East and West Germany have underlined the crucial need for modern digital switching and signalling technology to bring about economic recovery in East Germany. To help progress, the Coordinating Committee on Multilateral Export Controls (COCOM) is discussing relaxation of rulings on technology exports and transfers to Eastern Europe, and West Germany's Chancellor Kohl has announced an increase of $60 million (to $177 million) in funds paid to East Germany, to cover imbalance of calls and postal services between the two countries. But funds must be used for telecommunications contracts with West German companies.

However, Alcatel has, subject to COCOM approval, made another major breakthrough in Eastern Europe, recently signing an agreement with an East German telecommunications and electronics manufacturer to establish a joint venture company to supply equipment to the East German public and private telecommunications markets. This is Alcatel's second deal in East Germany in as many weeks, with Alcatel SEL winning a contract to supply Deutsche Post with 14 containerised System 12 exchanges, providing some 34,000 lines and a 12,000 line digital trunk exchange.

Now Alcatel has agreed with the Berlin-based company VEB Kombinat Nachrichtenelektronik to form a 50:50 limited liability joint venture company which will eventually have the capacity to produce 900,000 System 12 lines annually. By the end of 1995, the company will have supplied Deutsche Post with 1.5 million digital exchange lines. Production is due to start at the beginning of 1991. It is expected that the balance between total production and domestic consumption will be exported, primarily to the other Comecon countries.

The Alcatel subsidiary directly involved in the deal, is, again, the West German manufacturer Alcatel SEL whose chairman, Gerhard Zeidler, and deputy chairman, Hans-Ulrich Schroeder, signed the agreement with Klaus Wolf, general manager of Deutsche Post, and Jurgen

Apitz, General Manager of Kombinat. SEL will undertake the transfer of know-how and will assist in training employees.

The production plant will be located at Kombinat's manufacturing facility in Arnstadt where Nachrichtenelektronik already manufactures telecommunications equipment. Other VEB Kombinat companies involved in manufacturing are Stern-Radio, based in Rochlitz, producing radio communications systems, and Berlin-based Funk-und Fernmeldeanlagenbau, which manufactures radio and telecommunications systems.

Alcatel has applied to COCOM for permission to complete the technology transfer and, additionally, must wait for ratification of the joint venture by the East German Council of Ministers.

Both agreements—one for direct supply of System 12 at the end of February and this latest agreement—are thought to be direct results of an East/West German telecommunications strategy hurriedly thrashed out by officials from both countries at the beginning of February.

Dr. Christian Schwarz-Schilling, the West German minister, said then that a phased plan for the upgrading of the East's network and the eventual integration of the two networks had been drawn up.

Short-term measures to accommodate the fourfold increase in traffic from East to West Germany expected by the end of the year, include the installation of a further 497 lines from East to West to total 892, and from West to East another 710 lines (to 1,400) will be made available by the end of this year.

In the 1990-91 timeframe, Deutsche Post is to install a digital overlay network. The first phase is to install local and trunk transmission nodes in several key East German cities including Dresden, Erfurt, Karl Marx Stadt and Leipzig. Alcatel is supplying eight switches to Dresden, three of which will be commissioned by May this year. The six other towns will be supplied by Alcatel , and will connect to the network by the end of this year. All nodes will be connected by fibre optic and coaxial cables and supplemented by microwave links, by the end of this year. National extension of the network to other major towns and cities will take a step-by-step approach, with connection mainly by north/south digital microwave spurs.

In February this year, 15 more channels were added to the fibre optic cable linking Uelzen and West Berlin, providing capacity for a further 30,000 telephone channels. By the middle of this year spare capacity on existing microwave links will add 2,000 more digital telephone channels.

A new fibre optic cable within Berlin can also be equipped with 30,000 extra channels if demand is high enough, and completion of this cable is scheduled for the third quarter of this year.

Two additional long-distance cables are planned to link the two countries together by the end of 1992. The first will travel north (from West Germany) via Magdeburg to Berlin, while the second will travel south (to West Germany) from Berlin, via Leipzig. Cables for domestic use will be installed by Deutsche Post.

Further into the future, a long-distance transmission and switching network is planned to connect Eastern and Western Europe via Berlin. A transit link from Frankfurt will pass through East Germany, via Berlin, and will terminate in Moscow. Deutsche Bundespost Telekom (DBT) says that a feasibility study is already underway and that the project should be operational by 1993.

Alcatel SEL would appear to have won its first contract and set up its first joint venture agreement at exactly the right time. Although Alcatel is capable of supplying all necessary equipment for the digital overlay network, it is by no means guaranteed as the monopoly supplier. Other European and North American suppliers have already had success in winning contracts with Eastern Bloc countries this year.

Other areas, apart from fixed telephony infrastructure equipment, which are likely to present major opportunities arising from the East/West Germany telecommunications integration, lie in mobile and data communications. Initially, DBT's C-Net mobile telephone network will be extended to cover East Germany. By the end of this year major trunk roads connecting Berlin to West Germany will be covered, with the autobahn between Berlin and Helmstadt, on the East/West border, as top priority.

By the end of 1991, apart from trunk roads, major conurbations such as Magdeburg, Halle, Potsdam and Leipzig will be covered along with other autobahns. DBS added that the frequency allocation for its D-Net digital cellular mobile network already allows for expansion into East Germany.

Perhaps the most interesting outcome of the planned integration is the revelation that West German restrictions on the use of satellite earth stations and mobile phones will apply in East Germany as will the West German approvals process. Any equipment approved for use in West Germany is automatically approved for use in the East German network.

Trials are also to begin in the next couple of months on the installation of the Cityruf paging service in one unnamed conurbation. Technical equipment for the trial will be supplied by the Deutsche Bundespost Telekom.

Finally, data and text communications in East Germany are also to receive a boost. By the end of this year, East German companies will have access to DBT's Datex-P own public packet-switching network, while a dedicated packet-switched data network, compatible with Datex-P, will be installed in East Germany by the end of 1991.

By the summer of 1990, the countries' two telex networks will have been interconnected while, by the end of the year, facsimile transmission between the two countries will be widely available.

Poland

The Polish Government has asked for a team from the United States Department of Commerce's National Telecommunications and Information Administration to evaluate a plan to modernise its telecommunications system.

Industry observers say that cooperation between the two countries may provide United States companies with an early advantage in the impending competition for Eastern European contracts. The US team may also be called upon to recommend potential suppliers as part of its evaluation of the Polish Government's plan.

At the beginning of this year, AT&T Network Systems International, AT&T's European holding company, received its first order from Poland to supply digital switching equipment.

The Ministry of Posts and Telecommunications, through the Polish PTT, has awarded a contract worth $7 million to AT&T Network Systems International, which is also 20 percent owned by STET and 15 percent owned by Philips.

The contract calls for AT&T to supply a 7,710 trunk line, its own digital 5ESS-PRX international exchange. The unit will be manufactured by AT&T-NSI's Dutch subsidiary, APT Nederland, with 17 switching modules capable of processing 60,000 telephone calls each hour. APT Nederland will also conduct software development, installation and training of PTT engineers. Installation will be in September of this year with the official cutover in early 1991.

AT&T said the switch is to be located in Warsaw and that it had won the contract against competition from "other leading telecommunications vendors". The company added that the equipment complies with the directives of international export regulations.

Poland's application to join Eutelsat in October 1989 was formally approved by the Assembly of Parties meeting in Paris on March 1st 1990.

The Polish Postal and Telecommunications Administration has been nominated as Poland's Eutelsat signatory and shareholder.

Poland plans to use Eutelsat capacity for international telephony traffic with all 18 European member countries using an earth station scheduled to be operational in 1991. Eutelsat I and II satellites provide coverage of Poland, and will allow access with standard earth station equipment.

Poland is the 27th European state to join the organisation and the first state that is not a member of the European Conference of Postal and Telecommunications Administrations (CEPT).

Romania

The Romanian Ministry of Posts and Telecommunications in Bucharest has also made an official request to become a member of Eutelsat.

The Ministry is planning to construct an earth station for international digital telephony links, and plans to use Eutelsat for occasional television transmissions as well as for the reception of television programmes already transmitting via the satellites.

Romania's request to join Eutelsat was to be assessed during February by the decision-making body of Eutelsat, the Assembly of Parties. No further developments have been announced at the present time.

Yugoslavia

Alcatel confirmed in January that it is to set up a joint venture in Yugoslavia to manufacture its E10 switch.

The as yet unnamed company will be a joint venture between Alcatel and Yougoslave Elektronska Industrija (EI), with Alcatel holding 51 percent of the company. Alcatel says the cost of the investment is over FFr 100 million.

The new company will have capacity for manufacturing 100,000 lines a year and, Alcatel says, the Serbian PTT will order more than one million E10 lines over the next 10 years. Presumably, none will be exported. Operations will begin shortly.

Ericsson also supplies its AXE digital switch to Yugoslavia, having orders for or having installed over 80 exchanges by October 1989, which will ultimately provide over 350,000 local and nearly 130,000 trunk lines.

Alcatel was unable to confirm or deny radio reports during January that it had concluded a $500 million contract also with E1 covering a transfer of technology to a new joint venture company for the production of telephones, PCs, workstations and mainframes. The reports added that at least 20 percent of the joint venture's output would be exported and that Alcatel would grant the Serbian PTT credit for purchases of new equipment with a minimum grace period of three years. The two partners are reported to be investing $25 million in the joint company.

Timeplex Ltd. has appointed Infosistem as its first Yugoslavian agent, bringing the total number of Timeplex distributors worldwide to 39.

Infosistem is the Yugoslavian agent for Unisys, Timeplex's parent company, with offices in Zagreb, Ljubljana, Belgrade, Rijeka, Sarajevo, Mostar and Borovo.

Infosistem engineer Mr. Kresimir Jakupek said that as a Timeplex agent Infosistem will be able to offer its

customers complete data processing and communications systems using Unisys U-series computers linked to Timeplex communications equipment. The company has already signed its first order for Timeplex multiplexers and nodal processors, and by the end of 1989, hopes to have signed contracts for $120,000 worth of Timeplex equipment in all.

GPT Data Systems has announced it will supply one of the first public videotex systems in the world to a consortium of four of Yugoslavia's 53 regional PTTs, at a cost of around $1.62 million. GPT says it will supply a complete system with hardware, software, terminals and training, and that the network should be up and running by early 1991. Installation is to be completed by August 1990.

The first network nodes will be at Zagreb, Ljubljana, Split and Rijeka.

GPT indicated that these databases will provide financial, tourism and travel, and import/export information, along with messaging "chat-line" services.

GPT hopes that other regional PTTs within Yugoslavia will join the system, noting that several had already shown an interest. The company said that all each PTT needs to link into the system is a VIP which gives it access to Yupak. Up to 25,000 registered users are projected for 1992.

Future development of the system will include connectivity to other European systems and their databases through a series of gateways.

The order follows feasibility studies conducted by the Community of Yugoslavian PTTs (CYPTT), culminating in the conference attended by the major suppliers held in Osijek last May. Initial negotiations took place with Zagreb PTT, and a subsequent agreement on standards was reached after a technical appraisal of neighbouring systems in Austria, Italy and Hungary.

USSR

The United States Federal Communications Commission is considering a proposal for satellites belonging to Intersputnik, a consortium of 15 Eastern European countries, to be used to increase telecommunications capacity between the United States and the Soviet Union by 300 percent.

AT&T of New York want approval to use Intersputnik circuits for operator-assisted, direct-dialled calls and customer services from the United States. The company said that the Soviets prefer to use their own satellites when adding circuits to the West because less hard currency needs to be exchanged.

According to the AT&T announcement, traffic between the countries has increased by 140 percent in the last two years with demands exceeding capacity.

The Canadian microcomputer manufacturer Ogivar Incorporated, of St. Laurent, Quebec, reached an agreement with the Soviet Union in February to build a manufacturing plant in Moscow. A spokesman for the company said that the plant will be part of a CDN $200 million high-technology complex being developed as a joint venture by the City of Moscow and Groupe Cystern which is owned by the chairman of Ogivar.

Secretary of the Moscow Executive Committee Yuriy Vinogradov signed the accord for the Russians with the mayor of Montreal, Jean Dore.

TRT of France, through France Telecom, contributed to the restoration of Armenia's telephone network with the development and setting-up of a rural telephone system.

TRT's IRT 1500 system, a radioelectric point-to-multipoint digital concentrator, is providing 100 subscribers in seven villages in the Spitak region with access to the national network. Terminal and repeater stations are located in shelters, and the central station interfaces with Soviet electromechanical switching equipment. The system became operational at the beginning of December last year, following the French Government's decision to help Armenia after the earthquake in 1988.

A trans-Soviet fibre optic link is to be built linking Japan, the Soviet Union and Europe, stretching 15,300 km across the continents, of which 9,000 km is within the Soviet Union.

US West is leading the consortium, forming a corporation to undertake the development of the link. The other participants in the consortium include the Ministry of Posts and Telecommunications of the Soviet Union, KDD of Japan, Societa Finanziaria Telefonica (STET) of Italy, British Telecom, OTC of Australia, Denmark's Great Nordic Telegraph Co., Telecom Denmark, and the Deutsche Bundespost Telekom of West Germany.

The new corporation, known as the Trans-Soviet Line Development Corporation, will manage the construction and operation of the cable which will complete one of the missing links for a global fibre optic information network. US West said it hopes the construction on the line would begin in the first half of 1990, with an estimated three to five years completion date. Costing around $500 million, the fibre will cross the Soviet Union and have undersea connections into Denmark, Italy and Japan, making it the longest fibre optic link in the world.

This development positions the UK and Japan as the major hubs for the eventual global network since they are the landing points for other major fibre optic links. Japan is linked to the US via the NPC, TCP 3 and TCP 4 submarine cables in the Pacific Ocean. From the US the PTAT, TAT 8 and 9 cables run across the Atlantic landing in the UK which is linked to Denmark by the Denmark/UK III and IV cables.

Computer contracts for the Soviet Union have been very lucrative for the companies concerned. The following

computer sales and contracts have been established: Computerland of New Jersey, USA, which sells machines made by IBM Corp. and other leading companies, has opened a store in Moscow near Moscow State University (MGU).

Buyers are expected to be from Soviet research institutions and businesses that have access to hard currency, which is the only kind which will be honoured by the store. Three Soviet emigres now living in the US expect to do $10 million worth of business during the first year, being optimistic that Western export restrictions will be eased further.

Opus Technology, a UK-based PC manufacturer, has joined the giants in being selected to supply PCs to the Soviet Union. A "Moscow vehicle components company" has bought $400,000 worth of Opus XT and 286 compatible systems.

Sources within the company say they expect that the computers will be used for office work within factories. The Moscow office was set up during the first half of 1989, after becoming a founder member of the Russian-based International Computer Club. It also became the first western company to have advertisements pasted on the side of Moscow buses.

A joint venture company set up between GPT and MGTS (Moscow Telephone Network), known as Comstar, was formed to provide the first payphone service for international calls.

On January 10th, 1990, the first direct international public telephone call ever made from a pay phone in the USSR was placed from the Savoy Hotel in Moscow by Mr. E. Pervyshin, minister of posts and communications, to Mr. Zamyatin, Soviet Ambassador to the Court of St. James, at the Soviet Embassy in London. A second call, also made from the Savoy Hotel, was placed between Sir Roderick Braithwaite, HM ambassador to the USSR, and Mr. W. Waldegrave, minister of state, Foreign and Commonwealth Office, London.

The pay phones accept both pre-pay and major international credit cards, and are to be located at the international airport, all major hotels, and other central Moscow locations. Facilities provided will be primarily for foreign visitors and the resident foreign community.

The Comstar joint venture created last year plans to offer other advanced telecommunications services in Moscow and to exploit further opportunities elsewhere in the Soviet Union in future.

Sprint International signed a preliminary agreement with two Soviet organisations—the Central Telegraph division of the Ministry of Posts and Telecommunications and the Institute of Electronics and Computer Science of the Latvian Academy of Sciences—to form a telecommunications joint venture.

The new company will be known as Telenet USSR, and will undertake a variety of telecommunications activities including the running of a switching centre in Moscow which will be interconnected with Sprint's international data network, Sprintnet. This will provide Sprintmail electronic messaging services both domestically and internationally, as well as distributing Sprint International's Telenet product line of data communications equipment in the Soviet Union.

The new venture's business plans are expected to be finalised this summer, and, subject to registration by Soviet government authorities and receipt of US export licenses, put into action by the end of the year.

Central Telegraph provides international and intercity public telex, telegram and low-speed data communications services in the USSR. Some 120,000 domestic telex subscribers and 4,000 international customers use its services. The Institute of Electronics and Computer Sciences specialises in computer networking technology, and has developed software and hardware systems for packet-switched data communications.

Late News

At a World Telecommunications Seminar in Brussels, ITU General-Secretary Pekka Tarjanne said eastern European networks are in such bad shape that there was a very specific need for cooperation and help. The seminar was organised by the International Communications Association (ICA) and the International Telecommunications Users Group (INTUG) whose chairman, Peter Smith, said COCOM has the key to speeding up information technology in eastern Europe—he invited East Europe users to join his group.

The Conference of European Postal and Telecommunications Administrations (CEPT) is likely to accept requests from Poland and Hungary for membership, say some analysts, to be followed by other newly-freed states.

GERMAN DEMOCRATIC REPUBLIC

Alcatel To Supply Digital Switches to GDR

90AN0207 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 26 Feb 90 p 1

[Article: "More Alcatel System 12s for Deutsche Post"]

[Text] Alcatel SEL of Stuttgart, West Germany has been awarded a contract by the East German Ministry of Posts and Telecommunications to supply and install digital switching equipment to the Deutsche Post. The contract calls for the supply of 14 containerised System 12 exchanges with a total of approximately 34,000 lines and for the establishment of a 12,000-line digital trunk exchange.

Of the 14 digital System 12 exchanges, eight will be installed in Dresden, the first three of which will be commissioned in May of this year. The remaining six exchanges will be installed in Karl-Marx-Stadt, Zwickau,

Reichenbach, Leipzig, Neubrandenburg and Erfurt, and will be connected to the network by the end of the year. The trunk exchange will be installed in East Berlin with the first phase of cutover scheduled in October this year and the second phase in July 1991. At the beginning of December last year, Alcatel installed a 2,000 line containerised System 12 exchange in East Berlin.

Alcatel SEL says it is the first telecoms company to supply digital exchanges to the Deutsche Post and that it expects to receive further orders for SEL's range of products. The company also revealed that it plans joint venture arrangements for the production of telecoms equipment in East Germany.

HUNGARY

Hungary Joins UK-Austria Telecommunications Venture

90AN0240 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 5 Mar 90 pp 1-3

[Excerpt] The Hungarian authorities have enlisted the further help of another of the Western world's major public switching manufacturers, this time extending an existing, indirect agreement with Northern Telecom. NorTel and Austria Telecommunication, a joint venture between two Austrian telecommunications equipment manufacturers, Kapsch AG and Schrack Telecom AG, have agreed to form a joint venture with BHG Telecommunications of Budapest to become operational on July 1 this year. NorTel will invest part of the $55 million required for the joint venture.

Initially, the new company will have the capacity to manufacture the equivalent of 400,000 digitial subscriber lines annually to cover both the public and private markets in Hungary. For the public network, the company will manufacture the ADS central office switch, a variant of the DMS-100 series originally developed for the Austrian market by Austria Telecom. Since the ADS is a variant of the DMS-100 it is currenlty cleared by COCOM.

Austria Telecom, through BHG, has already supplied Magyar Posta, the Hungarian PTO, with nearly 80 percent of an existing 100,000-line ADS order and this $140 million order is expected to be completed by this summer.

Equipment for the public network will also include the DMS-10 smaller, mainly rural switch (100-12,000 lines).

Although this new agreement centres on public equipment, BHG will also manufacture the Meridian SL-1 digital PBX, to be marketed as the Meridian DataStar, as it is in Austria.

NorTel said that a technology transfer covering the manufacture of the ADS is already in progress and that, subject to COCOM regulations, the new company's R&D facilities in Hungary could, in future, have access to NorTel's ISDN technology.

BHG is Hungary's largest telecommunications equipment manufacturer. It is also the only domestic manufacturer to produce digital switching systems for connection to the public network. NorTel said that ultimately BHG expects 50 percent of its output will be for export, with, hopefully, some of this going to the West. NorTel told International Telecommunications Intelligence that although several companies are licensed to manufacture analogue or digital exchange equipment for Magyar Posta, only BHG has approval for connection of its digital equipment to the public network. The company conceded, however, that the authorities are wishing to initiate some degree of competition in its public procurement policies.

BAHRAIN

Alcatel To Install ISDN in Bahrain

90AN0203 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 19 Feb 90 p 11

[Article: "Alcatel Chosen To Implement Bahrain's First ISDN"]

[Text] Batelco, the Bahrain telecommunications administration, will shortly be able to offer subscribers ISDN facilities for the first time following a recent order placed with Alcatel CIT.

Under a Fr 24 million contract, which Alcatel said was won in the face of strong international competition, particularly from Europe and Japan, Alcatel will install an E10 digital telephone exchange and associated transmission equipment in the capital, Manama. The exchange will have a capacity of 12,000 lines and be equipped with five remote subscriber units.

Alcatel says it already has orders to provide E10 ISDN systems in Ireland, Chile, and French Polynesia, and that more than 20 other countries are on the verge of adopting the facilities. The company has more than 30 million lines of its digital E10 switch on order from 64 countries, 25 million of which are currently in service.

INDIA

Space Department Formulates Massive Programs

BK2904101890 Delhi Domestic Service in English 0830 GMT 29 Apr 90

[Text] The Department of Space has formulated massive programs for implementation during the eighth plan period. Operationalization of Indian remote sensing spacecrafts, INSAT-2 test spacecraft, and augmented satellite launch vehicle is scheduled to be completed during this period. With a project outlay of 3,842 crore rupees, the department proposes two operational space systems. They are: INSAT and IRS, which will be maintained and expanded to meet the projected demand of services. India has already established infrastructure and capability for manufacturing satellites. The first indigenously-built IRS satellite launched in 1988 is now operational and providing data that is being used for forestry, hydrology and agriculture.

Information Ministry Reports on Radio, TV

BK2704093090 Delhi Domestic Service in English 0830 GMT 27 Apr 90

[Text] Doordarshan [television] has become one of the world's largest and fastest growing networks covering a population of 52 crore people. It also transmits for over 12 hours every day. The annual report of the Ministry of Information and Broadcasting for 1989-90 says the Doordarshan achieved a landmark in the expansion of its network by setting up an additional 175 transmitters during 1989-90. With this, the total number of its transmitters had crossed 510 by the middle of February.

The report says the major achievement of the All India Radio was to provide round-the-clock service to listeners, when the national channel broadcast started from the 7th of July last.

The report also adds that the National Film Development Corporation exported Indian films worth 12 million rupees till November last.

IRAQ

Siemens, Iraq Sign Manufacturing Agreement

90AN0162 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 22 Jan 90 p 15

[Text] Siemens has announced that it has signed a 12-year licensing agreement with the Iraqi Ministry of Industry covering the manufacture of digital switching equipment. As a result, Siemens said, annual production by 1991 of EWSD equipment could reach 300,000 lines and that of digital PABXs, 50,000 lines. Under the first phase of the agreement, lasting three years, Siemens will supply DM 130 million worth of components—enough to manufacture 150,000 EWSD lines, 50,000 digital PABX lines, and digital multiplexing equipment.

This agreement comes after Alcatel last year said that it was to supply a number of its E10 digital exchange lines. At the time, negotiations were being delayed, subject to a loan arrangement between France and Iraq.

MOROCCO

Ericsson Digital Equipment for Morocco

90AN0175 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 5 Feb 90 p 18

[Article: "Ericsson Wins Contract for Switching Equipment"]

[Text] The Swedish Agency for International Technical and Economic Cooperation is providing funds to Moroccan authorities for the purchase of Ericsson's AXE digital equipment for local telephone and transit exchanges.

An Ericsson spokesman was unable to disclose the number of exchanges or lines that the SKr 200-million contract covered but did note that it includes the replacement of a 20,000-line exchange which was destroyed in a fire.

The equipment will be manufactured in Sweden and installed in "urban and rural areas" throughout Morocco during this year.

Ericsson received its first AXE order from Morocco in 1984 and has to date installed approximately 100,000 local lines throughout the country. At the end of October 1989, Ericsson had a total of 11 local and transit exchanges installed or on order, with a total connection capacity of 144,640 (local and transit) lines in Morocco.

Also in 1988, Ericsson signed a contract to expand the country's NMT mobile telephone network.

Last November Bell Canada International told ITI that it was responsible for providing equipment for the southern half of the Kingdom while Alcatel looked after the north.

EUROPEAN AFFAIRS

Thomson, Philips Plan Joint HDTV Research

90WT0079 Paris AFP SCIENCES in French 26 Apr 90 p 20

[Text] **Eindhoven**—The French electronics group**Thomson** and the Dutch group **Philips** expect to collaborate more closely on the key components of high definition television (HDTV), according to a joint communique issued 19 April in Eindhoven and Paris.

The two European giants already work together in the framework of European programs. In merging their research efforts, they will significantly reenforce themselves in the HDTV battle, which pits them particularly against the Japanese. The stakes are high: the market has a value of at least 300 billion francs at the world level, that is to say an across-the-board replacement of television sets and video tape recorders by the year 2000.

Discussions are underway at this time between the two groups, about the various HDTV research projects they may have in common. These discussions could clear the way "for a closer collaboration," the communique indicates, though the two groups refuse to specify any further. "These discussions, which we expect to intensify in the coming months, will allow the two companies to benefit from their mutual resources."

Thomson Consumer Electronics (TCE) specified that no date has been set for an agreement. Meanwhile, it was added that the French authorities were encouraging the nationalized French group, which should soon conclude a multi-year research contract with the State for several hundred million francs yearly, to cooperate further with Philips.

The two groups underlined that broadcast satellites "imperatively" must use the D2 Mac standard (the European transition standard before HD Mac), in accordance with the European directive to take up the HDTV challenge in Europe in the face of competition from the Japanese Muse standard.

Even though West German public television is pushing the employment of the improved PAL standard (France presently uses SECAM), the Germans confirmed their commitment to the D2 Mac standard during a meeting of French and West German ministers (on the edge of the Franco-German summit) at the Hotel Matignon. "This will be very important," said Mr. Hubert Curien, minister of research and technology, "because there have been rumours that would make one fear a certain softening of the German determination."

EC's HDTV, Audiovisual Strategy Defined

90AN0213 Brussels EUROPE in English 28 Feb 90 pp 9-10

[Report: "Audiovisual Policy: Main Points of the Strategy Announced by the European Commission—Three Priorities: Development of the Programme Industry, Mastery of New Technology, Definition of Rules"]

[Text] Brussels, 27 February (EU)—The European Commissioner responsible for culture, Mr. Dondelinger, last week presented to the press the Commission communication on the Community's audiovisual policy. This is a guideline document intended for the European Parliament and the Council, aimed at opening a broad debate and announcing a new series of initiatives, partly for the year already in progress.

The Commission's audiovisual strategy is based on three axes:

1) The rules of the game, i.e., the regulation applicable to the production and broadcasting of images: The EEC directive adopted by the Council in October 1989, "TV Without Frontiers," provides the framework for a true European audiovisual space that the Commission intends, in the course of 1990, to complete with actions that affect the problem of author's rights (cable distribution and satellite broadcasting), the question of pluralism and mergers in the sector, as well as the other aspects linked to the competition policy (main points for co-production agreements, framework for state aid).

2) *Mastery of new technology:* In 1990 the European Commission intends to propose a specific directive on broadcasting norms to update the MAC/packet directive of 1986. This directive expires at the end of 1991 and only concerns direct telebroadcasting satellites. The new proposal will have to take into account the development of the market and services (in particular, the development of parabolic antennae and the introduction of high-definition television services) and it must also allow harmonisation of national approaches in matters of cable network planning.

Concerning high-definition television services, the Commission will propose in the fall of 1990 a pilot phase for 1992 and the introduction of regular services for 1995. The International Radio Consultative Committee (CCIR) will meet in May 1990 in Duesseldorf and theoretically should decide on a world standard for HDTV production.

3)*Promotion of the programme industry:* The European Commission intends to propose in the spring of 1990 the move to the principal phase of the MEDIA [Incentive Measures for the Development of the Audiovisual Manufacturing Industry] programme and its connection with the EUREKA-Audiovisual concept, the launch of which was decided on at the Paris Assizes in late September 1989. Through the MEDIA programme the Commission intends to improve the environment of audiovisual enterprises without intervening directly in production. The actions taken up to now involve training, multilingualism, distribution, and the improvement of financing mechanisms. All these actions meet the central objective of seeing to it that the European audiovisual sector benefits from the effects of the internal market.

The European Commission's diagnostic is clear: The European audiovisual sector has essentially developed in a national framework. This phenomenon explains the weak performance of this sector in Europe, which is characterised by the fragmentation of the market. One of the specific deficiencies pointed out by the Commission's analysis is in the distribution sector. For example, for the cinema in the United States, the large Hollywood studios have a vast distribution network; such a film distribution network is sorely lacking in Europe.

Added to this problem is insufficient video development (which in Europe has a turnover on the order of ECU 3 billion, compared to ECU 7 billion in the United States, 1987 figures) and the fact that 40 percent of European video distributors are controlled by American companies. It should also be noted that only 10 percent of European productions circulate within Europe; the main share of production remains confined within national frontiers.

Further, the narrowness of the stuctures explains their low cost-effectiveness: The audiovisual sector in Europe produced income of ECU 16 billion compared to ECU 33.5 billion in the United States (1987 figures, the latest available).

During his presentation Mr. Dondelinger stressed:

a) *The necessity and the urgency of encouraging programme production* by creating conditions for producers to launch the creation of films or TV programmes. In EUREKA-Audiovisual, cooperation will develop not only among EEC countries but also with EFTA and Eastern European countries. The European Commissioner also stressed the advisability of creating a secondary market that would allow the many rich programme archives in Europe to be used; currently, rights are held by national channels which can notably refuse to allow new arrivals to use them.

b) *Initiatives regarding competition rules, especially those applicable to mergers.* Contrary to what is sometimes stated, the new EEC regulation on prior notification of mergers of European dimension is applicable to the media sector as to other economic sectors; but in fact, companies in this sector rarely reach sizes for which prior notification would be compulsory. Moreover, in order to intervene, the Commission has to see if intra-Community trade is affected. This is why the regulation foresees that the member states may intervene themselves at national level, whilst retaining specific competence if there is a question of media plurality. The priority responsibility thus remains in the hands of the national authorities, which must all have the appropriate legislation and necessary powers to intervene. For its part, the Commission will assess, in the light of experience, whether a specific antitrust regulation for the media sector is necessary at Community level; in this case, it will present appropriate proposals to the Council. EUROPE reminds its readers that the problem of ad hoc legislation was raised by the European Parliament.

Regarding aid, on the other hand, the Commission has decided to establish a Community framework for national aid to film production, in particular by banning discrimination based on nationality.

c) *The maintenance on the aim of adopting the European norm of high-definition television (HDTV) as a world-wide one.* The Twelve are politically committed in this battle and it must continue.

European HDTV Study Group Formed

90WT0062b Paris LE MONDE in French
17 Mar 90 p 29

[Article by Philippe Lemaitre: "A New European Group Will Encourage Cooperation Among Electronics and Telecommunications Manufacturers"; first paragraph is editor's lead]

[Text] Consumer electronics manufacturers, television stations, independent producers of programs, and public or private telecommunications companies concerned with the European high-definition television project (HDTV) were scheduled to meet Friday 16 March in Brussels, under the auspices of the Delors Commission, to form a GEIE (European Economic Interest Group).

From our correspondent in Brussels (European Community)—The objective of the new group, already dubbed Vision 1,250 1, is to encourage cooperation among the different players, invite broadcasters in particular to become familiar with equipment developed by European manufacturers, and spur them to use this equipment in producing their programs. In short, an effort to prolong actual technological cooperation initiated by European manufacturers within the Eureka 95 project and promotion of the same, thereby standing up to the Japanese, particularly active commercially.

The principals concerned have already agreed to the contract proposed to the some 200 companies invited Friday to Brussels, after year-and-a-half-long negotiations supervised by the European Commission. The work of the GEIE will be organized by a governing committee on which the different interests will hold cannily distributed seats.

A "sponsoring committee" will be created, made up of representatives of member states, even AELE (European Free-Trade Association) countries, and of the Delors Commission. The committee will illustrate the willingness of European governments to support the operation.

The Commission's Financial Help

The Commission may provide financial help, through its "Media" program for instance, in producing experimental films. Community budget aid would underwrite the extra cost of filming a program in HDTV compared to a classic PAL or SECA M program. But the idea is that the bulk of the overlapping efforts (manufacturers-broadcasters) would be supported, as in the Japanese case, by enterprises: creation of the GEIE appears to be

a way of inducing manufacturers to make filming equipment available to producers free of charge and in sufficient quantities—which they do not now do—with the understanding that broadcasters would open wide the doors of their studios in return.

In Brussels, establishment of the GEIE is considered an important additional step in the work undertaken since 1986 by EC manufacturers and governments to ensure the development of a European HDTV standard and to avert a Japanese stranglehold on the sector. The European standard developed by EUREKA manufacturers in conjunction, for now, with Thomson (France), Philips (Holland), Bosch (FRG), Nokia (Finland) and an Italian consortium, has the dual advantage over its Japanese competitor of compatibility with the stock of televisions now in use and easy conversion of films shot in 35 millimeters.

This advantage should be exploited now and the counterattacks attempted by Tokyo effectively opposed. According to leaders in Brussels, the European position in this technico-politico-industrial arm-wrestling match looks rather encouraging as 1990 begins. It is certainly true for studio and transmission equipment, developed based on the European Mac Paquet norm. Production equipment whose efficiency was verified during the IFA meeting in Berlin in 1989 is now being manufactured in pilot runs and poses no problems, except perhaps that of the greater availability of Japanese equipment on the market.

Set results are not as satisfactory: manufacturers are still at the prototype stage, wide-screen technology has not been perfectly mastered and a Japanese manufacturer has pulled ahead of his Japanese and European competitors in the field.

The Commission is considering participating in the second phase of EUREKA 95 (the first phase expires next summer) through the RACE or ESPRIT community programs just to speed up development of those wide screens. It may also contribute [to efforts] to broadcast HDTV pictures via other than satellites—the only means now being explored—through cable or Hertzian beam.

It is hoped that the GEIE and the cooperation it will encourage will make it possible to close the gap, which is perhaps most irritating psychologically: Thanks to the promotional efforts of Japanese companies, there are more programs today in Europe, and in the United States, produced using the Japanese standard than the European one.

Footnotes

1. The European HDTV standard is composed of 1,250 lines for current frequencies of 50 Hertz; the Japanese standard is 1,125 lines at 59.94 Hertz.

'Vision 1250' HDTV Interest Group Launched

90AN0272 Brussels EC PRESS RELEASE in English No IP(90) 225, 19 Mar 90 p 1

[Report: "European HDTV: Out of the Laboratories, Into the Studios"]

[Text] HDTV equipment manufacturers, broadcasters, independent producers of films and TV programmes, and other audiovisual professionals met on Friday 16 March at a conference hosted by the EC Commission in Brussels to launch Vision 1250.

Vision 1250 is a European Economic Interest Grouping which will set up and manage HDTV facilities and make them available for use by European producers, programme-makers and TV professionals within the European Community. These facilities will have a comprehensive range of high-definition television equipment operating to the European standards of production and transmission.

The global importance of HDTV for Europe's broadcasting, audiovisual, and electronics sector was underlined, together with the role of HDTV in the enhancement of the Community's cultural heritage, by the EC Heads of State and Government at their summit meetings in Rhodes (1988) and Strasbourg (1989).

This recognition was reflected in concrete terms in the subsequent Council Decision of April 1989, which sets out a comprehensive Community strategy for the introduction of high-definition television services in Europe. This decision addresses five crucial areas:

These areas are:

1. Technology: To ensure that the industry develops all the necessary equipment in time for the launch of HDTV services;

2. Standards: To promote the adoption of the European standard as the single world standard for the origination and exchange of HDTV programmes;

3. The Market: To promote the widest use of the European system throughout the world;

4. Services: To promote the timely introduction of HDTV services in Europe; and

5. Programmes: To ensure that the European film and television production industry achieves the necessary capacity and experience in HDTV to be competitive on the world market.

Today's launch of Vision 1250, under the chairmanship of Dr. Kurt Schips, chairman of the new grouping's Constitutive Board, clearly illustrates that the focus of European HDTV initiatives is now firmly with the users.

It will, inter alia, provide the means for the creation of high-quality film or TV productions in high definition.

Vision 1250 will also organize demonstrations worldwide of all the components of an HDTV system operating to European standards, from studio equipment through transmission to consumer reception and recording.

EC: Status of ISDN Introduction Discussed

90AN0260 Brussels EUROPE in English
31 Mar 90 p 15

[Article: "Transeuropean Networks: Disagreements Between the Member States Concerning the Establishment of the ISDN—New Commission Proposals"]

[Text] Brussels, 30 March (EU)—Commenting on the 1989 report on the state of progress of the introduction of the ISDN—Integrated Services Digital Network—in the Community, EC Commission Vice-President Pandolfi welcomed the progress made, especially after the delays noted in 1988; however, this progress was not uniform in the Community as a whole. The report (based on data supplied by the Member States and the information collect by the Commission) notes that, by the end of 1989, four Member States had established national commercial ISDN's and related services:

1. In France, commercial ISDN (Numeris) was inaugurated in December 1987. It will be accessible throughout the country in 1990. At the end of 1989, it was accessible in nine French regions, including the Paris area.

2. In the FRG, commercial ISDN was launched at the end of 1988 in 8 large cities. At the end of 1989, 39 cities had access to ISDN, a figure which will increase to over 100 at the end of 1990. The target date for access throughout West Germany is 1993.

3. In Belgium, a first ISDN phase was launched in June 1989, with commercial services offered in 8 cities, a figure which increased to 33 by the end of the year.

4. In the UK, Mercury Communications Ltd launched commercial ISDN in November 1988 in 9 large cities. For its part, British Telecom operates a pilot ISDN service. In October 1988, a service including primary access was introduced and is now available in a steadily increasing number of locations.

Four countries have at this time introduced pilot phases. They are:

5. Spain: A pilot experiment in 1989 was scheduled to provide 512 basic access and 4 primary access possibilities. A commercial service should follow this year;

6. Denmark: A pilot ISDN service was established in 1989. Commercial service will be available in 1992.

7. The Netherlands: A pre-ISDN phase started in 1988. The pilot service, offering basic access to and international connections with the ISDN in the FRG was launched in the Rotterdam area in October 1989. The introduction of the regular ISDN is scheduled for 1991.

8. Ireland: ISDN tests are scheduled for the beginning of this year. Telecom Eireann hopes to be able to provide full service before 1993.

Lastly, four countries are about to initiate pilot projects or are waiting for 1992:

9. In Italy, a pilot ISDN, including interconnection with the national network and other ISDN's, should start in 1991 and involve nine metropolitan areas. The introduction of the service on a wide scale is scheduled for 1993.

10. In Portugal, a field test with four exchanges in two regions (Lisbon and Oporto) is scheduled for 1991. Commercial service should be available one year later.

11. In Greece, the launching of a pilot ISDN is scheduled for 1992. Commercial services should become available in 1993.

12. In Luxembourg, given its dimension and its geographical position, the strategy will be determined to a large extent by the results recorded in the other Member States and particularly in the neighbouring countries.

The report also stresses that considerable progress was made regarding the coordination of these efforts, as requested by the Council in its resolution of July 1989. Furthermore, the memorandum of understanding proposed by the Commission to the telecommunications administrations, concerning the provision of a minimal range of pan-European ISDN services, as well as the establishment of a joint ISDN paging system, was finalised within the European Conference of Postal and Telecommunications Offices (CEPT) and signed by the 23 telecommunications administrations of 18 European countries (among them the Twelve).

In addition, the report notes positive results concerning standardisation: From 60 to 70 percent of the standardisation has been practically completed, and over 200 European telecommunications standards requiring a definition have been identified.

Lastly, the report insists on the importance of clear strategies for the marketing of the new services and their rates, as well as for the protection of privacy in the new digital environment. The Commission proposes in particular:

1. The establishment of a European forum of ISDN users; 2. The publication of information on ISDN services; 3. R&D projects for basic ISDN terminals; 4. The definition of specifications for the public acquisition of ISDN terminals by the main users, including EEC institutions; 5. A review of the support granted to the ISDN in order to improve it within the framework of the STAR programme and other related programmes financed by the European Regional Development Agency (ERDF).

EC 'Regrets' U.S. Stance on Telecommunications Trade

90AN0211 Brussels EUROPE in English 26-27 Feb 90 pp 7-8

[Text] Brussels, 26 February (EU)—The European Commission "regrets" that the United States has decided to maintain the EC on the list of countries or regions with which it intends to negotiate the eliminiation of barriers to US exports of telecom products and services. This list, on which South Korea is also included, was drawn up by American authorities in compliance with the 1988 Trade Act. The Commission states that it fails to understand what purpose is served by continuing to put the Community on this list. Although during the preparation of the Trade Act beginning in 1986, certain American firms (including NTT) experienced difficulty penetrating the European market, the situation is very different today. The EC, in the framework of the establishment of the single market for 1993, is committed to a process of liberalisation of the telecommunications market, on which progress was notable in 1989. This evolution, the Commission notes, will be favourable to all international trade and thus to American companies.

Moreover, the EC, like the United States, is participating in the negotiation, within the context of the Uruguay Round, of a range of issues affecting telecommunications trade. The Commission recalls that the EC attaches a high priority to the success of the negotiations and calls upon the US Administration to do the same.

Further, the EC also expects the American side to address, in the multilateral context, the problems encountered by Community exporters in the US market which have been raised in bilateral discussions. The difficulties encountered by Europeans have contributed to the imbalance, in favour of the US, in bilateral telecommunications equipment trade. According to American statistics, US exports to the EC in 1988 reached $788 million, compared to $569 million in 1987, whereas, at the same time, American imports from the EC decreased from $370 million to $243 million.

The decision by the American Administration to maintain the EC on the list is equivalent to deciding to continue negotiations for one year until February 1991. In Brussels, it is thought that this decision represents an element of pressure in the framework of future negotiations within GATT on the liberalisation of telecommunications markets (which are not yet covered by GATT rules).

For the present, the negotiations—prescribed by the Trade Act with those countries or regions included on the list—are limited, in the case of the EC, to exchanges of information. Most of the questions the Americans are asking the Commission are directed towards obtaining clarifications on EC plans on telecom matters in the years to come. The Commission still continues to conclude, therefore, that official negotiations with the United States in this sector have not been opened.

EC Council Adopts Stance on Open Network Provision

Liberalization Directive Approved

90AN0169 Brussels EUROPE in English 5-6 Feb 90 p 10

[Report: "Telecommunications: EC Council Adopts Common Position on Directive for Liberalisation of Services"]

[Text] The EC Council has just approved, without debate, its common position on open network provision (ONP), which comes within the context of the liberalisation strategy for telecommunications services within the Community. This directive, which is due to come into force sometime in the summer of 1990, will have the effect of facilitating access for private companies to the networks and some other telecommunications services which have to date been exclusively reserved for the public sector. It will considerably alter the present situation, in which the supply of pan-European services can be made difficult, if not impossible, mainly for three reasons: the lack of harmonised technical interfaces; varying user conditions; and discriminatory tariff principles.

The directive proposed by the Commission—which will again come before the European Parliament before being finally approved—has the main aim of eliminating these divergencies via harmonisation in close cooperation with the European Telecommunications Standards Institute (ETSI). It plans a detailed programme over time, to this end.

Directive Detailed

90AN0169 Brussels EUROPE in English 8 Feb 90 p 12

[Report: "Telecommunications: Content of the Directive Liberalising the Provision of Services in the EEC on Which the Council Has Just Adopted a Common Position"]

[Excerpt] [passage omitted] Here are some of the principal characteristics of this directive:

1) Technical interfaces and service features will become the subject of European standards to be adopted by ETSI. These standards will in principle be of a voluntary nature. However, there is a presumption in favour of those who comply with the standard, i.e. service providers complying with the standard will be able to offer their services throughout the whole European Community. This is an important incentive, but no obligation to apply the standard.

2) If the working of this presumption in practice does not suffice to guarantee the interoperability of trans-frontier services within the Community, the Commission can

make the reference to the standard in question mandatory to the extent strictly necessary to ensure such interoperability and to improve freedom of choice for users.

There will most probably not be any mandatory standards for value-added services, since the procedure mentioned above was conceived for application to basic services such as packet-switched data transmission and the ISDN.

3) Since the Commission will have to improve freedom of choice for users when making the reference to a European standard mandatory, this will not prevent a company that offers services related to mandatory standards from also offering other services.

4) The Council reached agreement on the work programme in the field of ONP for the coming years. In particular, this programme provides that:

- There will be specific ONP directives for leased lines and voice telephony;
- By 1 January 1991, technical interfaces and services features concerning packet-switched data transmission and the ISDN will be established and could be made mandatory according to the procedure mentioned above;
- ONP conditions will be adopted in the form of recommendations by 1 July 1991 and 1 January 1992 for packet-switched data transmission and the ISDN respectively;
- The Council will examine Commission proposals in 1992 and thereafter by which the recommendation mentioned above would be transposed into directives.

This directive on open network provision should enter into force at the same time as the one which, accepted by the Twelve on 7 December 1989, will put an end to exclusive or special rights enjoyed by state postal services on telecommunications services, except concerning voice telephony and the network infrastructure. In addition, the European Commission directive does not apply to telex services and it authorises Member States to ban simple resales (without value added) of capacity of leased lines for a transition period going up to 31 December 1992. The principle of opening telecommunications services as from 1 January 1993 is therefore confirmed. Under a global political compromise, the Commision nevertheless indicated, at the Council on 7 December last, that it could envisage an extension of the transition period up to 1 January 1996 for resales of leased lines. This extension would not be general, however: It would be granted to Member States that can provide irrefutable proof that their network for packet-switched data transmission is not yet sufficiently developed. Further, the Commission also agreed to let the Member States, in certain specific cases, impose "tender specifications" for private enterprises whose activity in the sector of packet-switched data transmission is likely to affect the provision of services of general economic interest, for which a public enterprise is responsible. The Commission intends, however, to examine in detail any eventual tender specifications.

EC Overrules CEPT Telecom Recommendations

90AN0273 Chichester TELEFACTS in English Mar 90 p 3

[Text] The European Commission recently established a landmark case in the application of Commission anti-trust laws to telecommunications. This breaks the "European" cartel-type arrangement, originally formulated by the European Conference of Postal and Telecommunications Administrations (CEPT).

During April 1989, the CEPT revised its recommendation on the "General Principles for the Lease of International Telecommunications Circuits and the Establishment of Private International Networks", allowing the PTTs to impose a 30-percent surcharge when lessors of leased circuits allow third-party traffic to be carried on an international leased circuit, or an access charge if such a circuit is interconnected to the public telecommunications network. It also allowed for the imposition of uniform tariff coefficients for setting prices charged for these circuits—i.e. fixing prices in collusion with each other.

Invoking Article 85(1) of the Treaty of Rome, the Commission found such a practice to be anti-competitive, "having the object and effect of restricting price competition for international leased circuits."

It seems the CEPT has bowed to pressure from the Commission, which says it began its investigation on its "own initiative", although it admitted that it had received complaints from two unnamed parties, presumably instigated by value-added service providers. At the end of February 1990, the CEPT agreed to abolish the recommendation.

The Commission did not rule out the future possibility of agreement between the PTTs over harmonising prices provided this does not amount to price-fixing and is based more closely on the cost of providing a leased-line.

The case is seen as historic, since it is the first time the Commission has extended its powers beyond the strict national borders of the "European Community". The CEPT represents the PTOs of 26 "European" countries, including the 12 member-states, and can adopt recommendations on the provision, usage and charging conditions for international services.

The Commission said that while all users would benefit from the decision, it singled out suppliers of value-added services as those most likely to benefit.

Multi-Standard, Advanced Screen TV Available Soon

90WT0062a Paris LE MONDE in French 18/19 Mar 90 p 10

[Text] A new generation of television sets should to appear in stores between now and the end of 1990. The first innovation will be the size of the screen, which will be enlarged. Screen sizes now are described as "four thirds", that is, the ratio of the screen's width and height is 4/3. The new sets are called "sixteen ninths", a more rectangular size better suited to rebroadcasting films, for it is close to the size of movie-house screens.

This type of screen, for example, will enable viewers to get rid of the black bands on the top and bottom of the screen that often garnish Cinemascope films in current television broadcasts.

For traditional shows, broadcast in the 4/3 size, viewers will be able, through a "zoom" function, to make their own choice of frame: full screen (at the risk of losing a bit of the picture at the top and bottom) or with black strips on the sides. On future Thomson sets, they will even, if they desire, be able to "take a look" at three other programs simultaneously, in three small squares off to the side of the main picture.

Eliminating Flickering

But that is not the only novelty of these sets being readied by Thomson, Philips, Nokia and Japanese manufacturers. They will also be capable of receiving several television standards, whether the current PAL, SECAM or NTSC, or the new standard selected by satellite stations, the D2 MAC Paquet. And of course their sound will be stereo.

Finally, some of these television sets will also be equipped with memory, allowing the number of lines displayed to be artificially doubled (1,250 instead of the current 625) by combining a picture with the preceding one. This eliminates flickering, for instance. In the long term, when high-definition television is a reality, these sets will be able to be adapted for it by adding a suitable case.

These top-of-the-line television sets will remain expensive to start with: Thomson has announced a price of 30,000 French francs for its model launched in the fall. Nonetheless, manufacturers are counting on this technological advance to speed replacement of currently used stock. One problem has still to be resolved: access-control systems, which will be necessary to decode cable stations such as the Children's Channel, Channel Plus or Sports 2/3, broadcast by TF1.

Due to the current lack of European standardization, these devices will not be integrated into the first generation of new sets, requiring subscribers to add a decoder.

Europe To Use Inmarsat for Mobile Communications

90AN0256 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 26 Mar 90 pp 1, 3

[Text] The Satellite Telecommunications Coordination Committee (CCTS) of the European Conference of Post and Telecommunications Administrations (CEPT) has concluded that Europe will use Inmarsat to provide public land mobile voice and data satellite communications services. The conclusion reflects the findings of the Mobsat Group, which has been evaluating Europe's mobile satellite communications options for the CCTS during the past year.

This follows an earlier resolution of the CCTS to provide land mobile data communications services within Europe using the Inmarsat-C system as soon as possible.

The effect of these agreements is that the Inmarsat-C and Inmarsat-M system will be adopted as the standards in Europe and that the services will be provided using Inmarsat satellites.

The Inmarsat-C system is a two-way data messaging system that features very small mobile user terminals. This system is currently in service, with about 1,000 mobile users, in pre-operational mode. It is expected to go into commercial operation this summer. Inmarsat says that 10 European countries have already indicated that they will be operating Inmarsat-C ground stations by the end of 1991 using Inmarsat's Atlantic Ocean east and west zone and Indian Ocean zone satellites, all of which cover Europe.

The Inmarsat-M system, scheduled for introduction during the 1992/3 period, will provide two-way voice and facsimile communications.

EC Commissioner Proposes Audiovisual Strategy

90AN0270 Brussels EUROPE in English 13 Apr 90 pp 11-12

[Report: "Audiovisual: European Commission Proposes Cooperation Structures To Create a Real European Audiovisual Space"]

[Text] Brussels, 12 April (EU)—EC Commissioner Dondelinger presented to the press this week the overall action that the European Commission proposes to implement over a five-year period (1991-1995) in favour of the European audiovisual sector. With this strategic action, for which it is requesting a budget of ECU 250 million, the Commission does not intend to intervene directly to support audiovisual production, which must remain the responsibility of the professionals of the sector; however, its plan includes a series of concrete initiatives designed to stimulate audiovisual production across the EEC's borders. Here are the main lines of the action proposed:

1) The audiovisual sector is characterised by a large number of small and medium-sized enterprises. SME's engaged in independent production should be encouraged to establish coproduction and cofinancing structures, as well as means of commercial promotion adapted to both the European and the international markets.

2) The installation of distribution networks will have to offset the lack of "multinational" structures for the movement of films within the Community, and beyond the latter's borders. These networks must in particular include mechanisms to overcome the language barrier, which is a major obstacle to European and worldwide distribution. These mechanisms will be vital for the production of minority-language countries.

3) The creation of a second market by selling the programmes across the borders is the necessary complement of the promotion of independent production and distribution. Only European-sized cooperation networks will make it possible to resolve the difficult problems linked notably to the use of archives.

4) The European audiovisual sector will have to take advantage of the new techniques used in production and broadcasting/distribution. In a context of rapid changes, the opportunities offered by technological developments to expand the European audiovisual market cannot be missed. However, the cost of technological innovations and of its use in programmes requires the pooling of means within the framework of transfrontier operating structures.

5) Generally speaking, in addition to the creation of company networks, capital will have to be raised through new forms of investors' associations and risk allocation, both for the sector as a whole and at Community level.

6) The Community will take part in Audiovisual EUREKA projects which will be defined later and which correspond to the objectives of the action programme proposed by the Commission.

7) Joint ventures solutions will be devised to promote cooperation with professionals from Central and Eastern Europe.

8) The Commission also proposes an action in favour of the economic and commercial training of the professionals in the TV and cinema sector, so that they can acquire the management skills required by audiovisual managers.

Europe: An Expanding Market in Which "Extra-European" Supply Is Better Received

The audiovisual sector is now viewed as a strategic sector of the Community's service economy because of its growth; it will go from ECU 25 billion in 1990 to ECU 35 billion by the end of the century. However, for the European Commission, the stakes are not only of a commercial nature. The audiovisual sector represents also an essential dimension of the cultural wealth of the Community. While demand is growing, mostly in the area of television programmes, the European audiovisual sector continues to be characterised by a substantial fragmentation of the market:

a) Insufficient distribution and promotion networks at European level, which explains the fact that 90 percent of European productions never cross the borders of their country of origin;

b) Production costs which are too high given the national size of the markets, resulting in not very profitable productions. This may have major consequences for the production of fiction programmes, the most important sector in the future, not only for Europe but worldwide;

c) Problems with copyrights, archive management or very simply the lack of catalogues make the development of a "second market" difficult for European audiovisual products. Such a market would make it possible to derive a profit from an important stock of programmes through the rebroadcasting of TV shows.

d) The audiovisual sector is considered by financiers as a high-risk sector, mainly because of its national size; in other words, investors fail to diversify risks in transfrontier operations.

According to the European Commission, a European strategy is necessary if the European audiovisual industry is not to be condemned to underdevelopment. The report is clear: In a developing market, the "extra-European" offer is in a better position. For example, the Commission notes that:

- On average, 60 percent of cinematographic distribution in Europe is controlled by companies of American origin;
- The European distribution channels for video cassettes are, in 40 percent of the cases, in the hands of extra-European groupings;
- In 1988, Europe bought $700 million worth of television programmes, particularly fiction, from the USA;
- In 1989, out of 11,000 viewing hours of animation broadcast by the Community's TV channels, 60 percent came from Japan, whereas European production only amounted to 350 hours.

As European industry is of a dispersed nature, it cannot find its place on the world market: Its presence in Japan and in the United States hardly exceeds 2 percent of audiovisual and cinematographic programmation.

EUREKA Digital Audio Broadcasting Project Presented

90AN0223 Paris ELECTRONIQUE HEBDO in French 22 Feb 90 p 10

[Article by Elisabeth Feder: "EUREKA Digital Broadcasting Project Reaches Halfway Point"]

[Text] Bonn—After compact disks and digital audio tapes, digital sound will soon hit our radio receivers. A EUREKA project is in under way that could lead to the first receivers appearing as early as 1995. Another fantastic market is shaping up.

Will our current FM radios be replaced by digital radio broadcasting in 10 years? Nobody can tell for sure today, but in any case, the bases for digital broadcasting are being developed within the EUREKA Digital Audio Broadcasting (DAB) project. CD sound quality is becoming a standard and, above all, listeners are growing accustomed to it. Moreover, digital broadcasting by satellite was launched in the FRG last fall. So why not try to give listeners the same quality on a standard home receiver and even on a mobile receiver, such as a car radio, over a terrestrial network?

The EUREKA DAB project was described last week by the FRG research minister during a news conference to mark the reaching of the project's "halfway mark." Its goal is to develop the technologies—essentially, a coding algorithm for massive signal compression and a transmission method—needed to define a digital network and to promote its transmission standard at the European, if not global, level. As a corollary, DAB could breathe new life into the hi-fi market, which has been virtually stagnant for the last few years, and into the manufacture of integrated circuits by European semiconductor companies.

CD-quality broadcasts can already be produced in radio studios and in receiving-end equipment. The difficulty lies in the current analog transmission network, whose frequency modulation (FM) band is already saturated. Utilization of narrower transmission frequencies results in increasing noise. In addition, the current FM band cannot easily be digitized: This idea was rejected in 1980, since direct and total digitization of an analog signal would require an even wider frequency spectrum than frequency modulation.

Sixteen Programs on Seven-MHz Band

Two signal-coding techniques are currently being studied within the DAB project. The goal is to reduce data throughput by a factor of seven, approximately. The two processes permit coding at 128 kbits/s per mono channel without quality deterioration audible to the human ear. These compression processes can be implemented in real time using existing signal processors. Specialists are trying to further reduce throughput to 96 kbits/s without causing noticeable differences, even at that frequency, between the quality of the original sound and that of the coded sound. Selection of the technology most appropriate to become the international standard is the responsibility of the International Standards Organization and the International Electrotechnical Commission (ISO/IEC). This selection is due this summer after a series of tests to be carried out by the Swedish radio broadcasting services and should result in a standard proposal as early as next fall.

Moreover, at the level of transmission technology, work on the COFDM (Coded Orthogonal Frequency Division Multiplex) process is in an advanced stage. This process was developed by the Joint Center for Television and Telecommunications Studies (CCETT)—one of the few French companies to participate in the DAB project. (Thomson Grand Public is involved through its German subsidiary.) It makes it possible to divide the occupied frequency band by three with respect to a conventional transmission method. For instance, 12 to 16 stereo programs can be broadcast on a four-MHz channel. Other combinations of channel widths and number of programs are feasible.

Definitive choices relating to systems development within the DAB project are also due before the end of 1990. By then, the problem of frequencies must absolutely be solved, since no unused band is available. Altogether, DAB will require about seven MHz to broadcast seven stereo programs with a coverage equivalent to that of current broadcasts, thanks to local emitters.

DAB Could Eventually Replace FM

DAB tests are currently being carried out between 47 and 790 MHz. The project participants are evaluating all possible configurations for the future broadcasting network, from the current network to the cellular network for digital mobile telephones. As early as a few years ago, program producers in the FRG were announcing that DAB could eventually replace FM because of its quality, in particular for car radios. It would thus seem appropriate to allocate to DAB a 7-MHz frequency band in a zone that is currently being used for radio broadcasting. In any case, discussions are in progress with the appropriate authorities in Western and Eastern Europe.

The next stage in the DAB project will be the development of a "reference system." DAB is scheduled to be introduced to the 1992 World Administration Radio Conference (WARC) together with a proposed world standard.

Initial concrete results already exist: An experimental system was demonstrated to the public in Geneva during the ITU-COM exhibition last fall, with a mobile reception unit roaming the city streets in a minibus. Programs were broadcast in a frequency band having the width of a TV channel (capable of handling 16 radio programs) of approximately 800 MHz. Mobile reception with CD sound quality was thereby demonstrated. More recently, a digital cassette recording was presented to the FRG Research and Technology Ministry (BMFT) in Bonn, which finances the project to the tune of DM 3 million. Four European countries (FRG, UK, France, and the Netherlands) are participating in this FRG-led project (with a majority of companies from that country), which is being coordinated by the FRG Aeronautics and Space Research Institute (DLR). The DAB project will run for four years (1988-1991), representing 360 man-years of work and DM 80 million in investments, including DM 63 million provided by the FRG. The BMFT finances 100 percent of the research work in institutes and 50 percent of industrial research.

FEDERAL REPUBLIC OF GERMANY

FRG, GDR Ministers Agree on PTT Modernization

90AN0174 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 5 Feb 90 p 9

[Article: "East/West Communications To Be Improved"]

[Excerpts] West German Telecommunications Minister Dr. Christian Schwarz-Schilling and his East German counterpart Dr. Klaus Wolf have agreed on a high-priority plan to improve communications links between the two states. Bundespost resources are to be deployed to increase the number of direct dialling lines immediately to 284 lines, with a further 200 planned for operation by the middle of the year. Also to cope with the anticipated heavy traffic load that the new facilities will generate, the West German authorities have earmarked 18 containerised exchanges each with between 18,000 and 20,000 lines to located at strategic points in the East Geman PSTN [Public Switched Telephone Network]. At the same time, traffic on an existing fiber-optic line which links Uelsen with West Berlin is to be increased to make full use of the system's capacity. Longer-term plans call for the building of a new fibre trunk link into West Berlin, the upgrading of an existing analogue radio link to full digital operation, and the installation of a new digital radio bearer.

New working parties have now been formed to work on improving text, data communications, mobile radio and the transmission of TV programme material between the two Germanys. Yet other groups have been set to discuss the allocations of radio frequencies and radio paging. Currently, the East German network is based on obsolete technology, but this will be overlaid with a parallel digital network to provide the quickest upgrade path for the new services. At the same time, the existing network will be improved in so far as is possible to allow data to be carried over the PSTN. Packet switched systems and satellite services will also be deployed. [passage omitted]

The new moves were agreed at the first session last week of a special commission set up to address the problems of integrating the networks of the two states. Schwarz-Schilling said: "Interconnection between the two states has for too long relied on old technology. Now people in both parts of Germany have a right to expect that the authorities will rectify this as quickly as possible."

Siemens Wins GDR Equipment Contract

90AN0255 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 26 Mar 90 p 1

[Text] Siemens has indicated that it, too, has been awarded a major contract in East Germany to supply digital public switches, cellular radio equipment, multiplexers and fibre-optic equipment. This follows an announcement by Alcatel-SEL last month that it is to supply Deutsche Poste with infrastructure equipment.

The contract, covering the supply of 30,000 local and 18,000 trunk EWSD lines, was announced recently at the Leipzig Fair by Dr. K. Wolf, minister for posts and telecommunications in East Germany.

Siemens will provide one local exchange and one trunk exchange for each of six cities which are to be key nodes in the digital overlay network to be constructed in East Germany by the beginning of next year. The cities concerned are Dresden, Chemnitz, Neubrandenburg, Rostock, Zwick, and Strausberg.

Spokesman for Siemens, Norbert Boecker, told INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE that one of the most important features of the new overlay network is that it will allow businessmen and residential customers in the cities connected to the network to use facsimile services for the first time, felt to be critical for the rapid development of the GDR economy.

Although he declined to reveal the exact value of his company's contracts, Herr Boecker indicated that the recent contracts awarded to Alcatel-SEL, his own company and another West German manufacturer, ANT Nachrichtentechnik, totalled approximately DM 80 million.

The microwave, multiplexing and fibre-optic equipment will also be used in the overlay network. Siemens' contract covers the north of East Germany between Berlin and Schwerin, although the company expects to supply other areas of the country later on.

As a short-term aid to communications, Siemens says it is to extend the C-net cellular network of the Deutsche Bundespost Telekom along major autobahns connecting Berlin to West Germany. A system has already been supplied in Leipzig for the fair and East Berlin will be the next city to be connected to the network.

ANT is the telecommunications arm of the Bosch group. It has a letter of intent from the East German Ministry of Posts and Telecommunications to provide digital microwave equipment for the digital overlay network. The links will be from Berlin via Leipzig and Erfurt into West Germany, as well as from Rostock via Schwerin to West Germany and from Karl Marx Stadt via Zwickau to the East German TV tower and the telecommunications distribution point in Berlin. An East German company,

Firma Robotron, will supply the equipment under a cooperative agreement signed with ANT in January this year.

Siemens has struck up a relationship with the East German information technology concern VEB Nachrichtenelektronik of Leipzig. The two firms intend to work together to develop PABX equipment for rapid deployment in the German Democratic Republic (GDR). The technology will be based on Siemens' Hicom digital PABX system. It is intended that the system will be manufactured in VEB Nachrichtenelektronik factories in Leipzig and in five other locations throughout the GDR.

Siemens Demonstrates ATM Broadband Switch

90AN0206 Chichester TELEFACTS in English Jan 90 p 1

[Text] Dr. Christian Schwarz-Schilling, West Germany's minister of post and telecommunications, was present at the first public application of broadband switching conducted by Siemens recently. The demonstration, claimed to be the world's first using Asynchronous Transfer Mode (ATM) technology, included a video transmission in colour and a simultaneous transmission of medical images obtained by a computed tomography examination.

Siemens said that only broadband switching and transmission have sufficient bandwidth to allow such image transfers.

The switch was installed in the Berlin Communications System (BERKOM) broadband test network, which is acting as an experiment for the provision of broadband services. The ATM switch has a broadband communications capability of up to 140 Mbit/s and can provide the higher bandwidth required for video transmission. Siemens said that the different bit rates—for video, voice, data and text transmission—are subdivided into packets of a standard length and then sent to the destination.

The company is predicting that broadband communications will become the standard technology of the future. While this switch is a prototype, it says widespread installation of the switch is expected in the middle of this decade.

Research has shown that it is possible to migrate from QPSX (queued packet synchronous switching) technology to ATM technology. Siemens recently licensed QPSX MANs technology from the Australian company of the same name following AT&T earlier this January and Alcatel in September 1989. Siemens intends to use QPSX as a complement to ATM.

SONET (synchronous optical network) technology is also complementary to both QPSX and by extension to ATM. SONET can act as a backbone for QPSX.

Flexible access systems (FAS), such as those employed in parts of the UK's network, can also be upgraded to SONET. Siemens has gained a licence to the technology from its developer GPT (a share of which it recently acquired). It is thought that FAS technology could be used to extend access to the BERKOM network.

Philips Wins GDR Broadband Contracts

90AN0261 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 2 Apr 90 p 1

[Article: "Philips Claims Share of East German Telecoms Market"]

[Text] The latest company to enter the East German telecoms market is Philips Kommunikations Industrie AG of Nurnberg, West Germany. Philips says it has received a "multimillion" Deutsche Mark contract to supply and install broadband transmission links in collaboration with the East German company Bautzen.

The contract, Philips' first from the East German Ministry of Posts and Telecommunications, includes the production of multiplexing equipment, transmission equipment and fibre-optic cable to connect microwave radio stations with digital telephone exchanges in Karl-Marx-Stadt, Zwickau and Erfurt.

In Dresden, Philips and Bautzen will supply and install multiplexing equipment for PABXs and transmission equipment. The 140 Mbit/s transmission links will be installed by April of next year at the latest, when, using the fibre-optic cable, it will be possible to transmit 1,920 telephone conversations simultaneously. Philips noted that this type of transmission system has already proved reliable in Deutsche Bundespost Telekom's network.

Philips Expands Existing Agreement

Philips has also announced that it has expanded an existing cooperation agreement it has with VEB Kombinat Robotron—an East German office machinery and computer company—to include telecommunications and computer activities.

Philips said the cooperation agreement will now cover consumer electronics, optical storage equipment, personal computers, advanced printers and telecommunications. Details of future projects were not revealed but both companies have stressed that the updated agreement will not interfere with existing cooperation with other partners in telecommunications, but should complement them.

Through this alliance, Philips and Robotron said they hope to achieve a leading position in the field of high technology not only in East Germany but also in cooperation with other partners in the Soviet Union and other East European countries.

Robotron recently announced the signing of a cooperative agreement with ANT Nachrichtentechnik for the supply of digital microwave equipment for the East German Ministry of Posts and Telecommunications.

FRANCE

France, West Germany Link ISDN Networks

90AN0262 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 2 Apr 90 p 1

[Article: "France Telecom and DBT Set Pace for National ISDN Coverage"]

[Text] France and Germany are setting a fast pace for European PTTs and PTOs in the race for national ISDN coverage. Now France Telecom and Deutsche Bundespost Telekom (DBT) have successfully interlinked their networks. Trials using the international standard CCSS No. 7 signalling systems were supervised by the National Centre of Telecommunications Studies (CNET) over a period of several weeks during late February and early March.

The trials involved a French E10MT exchange at Pastourelle in Paris and a German System 12 located in Nuremberg. According to a CNET spokesman, "The interconnection will henceforth mean that telecommunications users in both countries will be able to make full use of international ISDN services." Full commercial services between the two ISDNs are scheduled to start in the summer of 1990.

Portable Parabolic Antenna Developed

90WT0059ba Paris L'USINE NOUVELLE in French 22 Feb 90 p 61

[Article by Christian Cathala: "An All-Terrain Antenna"; first paragraph is editor's lead]

[Text] To retransmit television programs live, a team backed by France Telecom has developed a fully dismountable satellite dish made of composite materials.

What do the Paris-Dakar race and the Bush-Mitterand meeting in Saint-Martin have in common? Answer: a fully dismountable antenna 6 meters in diameter, made of composite materials, that broadcasted continuous images for television stations the world over.

France Telecom, Elf and the Yves Devillers Company Ltd are at the heart of the project, which took more than 3 years to bring to fruition. "I am not a technician," admits Yves Devillers, the designer of this unique antenna, "but I knew there was a real need to invent a light device capable of emitting and receiving signals in areas far removed from the center of satellite-coverage zones."

In the Sahara, for example, dishes at least 6 meters in diameter must be used to broadcast images via the Intelsat satellite network. And even antennas made of light metals weigh several tons. After an initial test on the Paris-Dakar 1986 race with a 10-ton transmitter, Yves Devillers's idea was to lighten and simplify the whole set-up to improve assembly time and make transport easier. "It sometimes took 6 hours to set up a dish," remembers Yves Devillers.

To bring assembly time down to less than an hour, only a solution involving lighter, and thus more easily transported, materials could be considered. In the end, it took the small company SHP, which had already created composite-material masts for Marc Pajot's boat, 6 months to fabricate this antenna made entirely of carbon (suppled by Elf). It weighs 300 kilos, "one-tenth as much as a classic dish," Frederic Neveu, head of the Paris small business, assures us.

Several patents have been taken out on the dish, in particular for its very simplified positioning device, but also for its electronics. Such an antenna would normally require amplifiers with 3,000 watts of power.

By optimizing the electronics, France Telecom engineers succeeded in limiting the necessary power to 750 W. This significantly reduces the space needed and the weight of the dish. As a result, it is the only antenna that can fit onto two loading pallets of a Boeing 747.

Yves Devillers is thinking of buying a Boeing 737 himself, in order to offer a complete rebroadcast service to television stations in search of live images from remote corners of the planet.

Cable Networks To Receive National Support

90WT0059a Paris L'USINE NOUVELLE in French 22 Feb 90 p 33

[Article by Jean-Pierre Jolivet: "Cable Networks: the State Moves to the Front Lines"; first paragraph is editor's lead]

[Text] By assuming a greater share of financial risks and by connecting buildings free of charge, the state is trying to make up for the cable networks' lag.

Lowered subscription rates, sharing of financial risks by having France Telecom participate in cable operators' capital, introduction of the D2 Mac transmission standard for cable networks to achieve better picture quality, and supplying of the Visiopass terminal, which will allow operators to branch out into "a la carte" television: the minister of the Post Office, Telecommunications and Space, Paul Quiles, is sparing no expense to bring cable out of its rut at a time when subscriptions are "stirring."

The sweep of these measures is commensurate with the lag that has built up. The 243,000 subscribers and 2 million cable hook-ups installed at the end of 1989 fall far short of Louis Mexandeau's predictions when the Cable Plan was launched. And far short of the schedule that counted on 4 million hook-ups and 1.5 million subscribers at the end of 1989. After experiencing everything from technological delays (a duel between coaxial and fiber optics) to marketing errors (underestimated installation costs, a ridiculously low connection rate, poor choice of sites), France looks like a desert compared

to the Federal Republic of Germany, which has 12 million hook-ups and 5 million subscribers.

With its "ballyhooed recoveries" and "noticeable stirrings" (the number of French subscribers has doubled in one year), has French cable been saved? France Telecom and operators would like to believe it has. The former has already sunk nearly 20 billion French francs into it and estimates total investments at 30 billion for the 52 scheduled sites. Cable operators, for their part, are losing patience and talking about profitability. The Deposit Office (nearly 4 billion francs invested) lost 150 million in 1989 on revenue of . . . 75 million. And the Lyon Water Company, after investing 800 million francs, is anxious to get out of the red.

Though France Telecom's capital participation (5 to 35 percent depending on the site) reassures operators, subscription prices are the priority. Hence the new plan presented by Paul Quiles: France Telecom will connect buildings to a network free of charge. Then cable operators will negotiate inside installation and charges with building managers. This would make it possible, figuring in subsidies from the Ministry of Equipment and Housing, to offer rates of between 20 and 50 francs a month to low-cost housing units (HLM). Now if only operators can offer programs that are attractive enough.

The measures taken by the minister of POTS, while strengthening the hand of the three big cable operators, worry Andre Rousselet. Channel Plus's boss sees it as a threat to the TDF 1 satellite. To promote the satellite's programs—particularly the Children's Channel—he is asking for a "hertzian wall" that would enable him to reach immediately a public unwilling for now to equip itself with costly receivers. But the Lyon Water Company, until now in favor of the plan, is requesting a freeze on all assignments of Hertzian frequencies. "The creation of new Hertzian channels is incompatible with the development of cable," asserts Jerome Monod.

A stand he combines with the threat, should Rousselet's request be granted, of pulling out of the Children's Channel, in which the Water Company has a financial stake.

Though his argument strengthens France Telecom's position, it spurs Andre Rousselet to declare war on cable. The tug of war between France Telecom and Channel Plus is likely to intensify, with the battle over "a la carte" television heating up in the background.

ITALY

New Telecommunications Projects To Lead to Four Prototypes

90MI0164 Milan ITALIA OGGI in Italian
8 Mar 90 p 41

[Text] Four laboratory prototypes are being developed in the telecommunications sector. The CNR's [National Research Council] finalized telecommunications program is divided into five subprojects that will lead to the development of four prototypes in 1992. Among these is a network for the experimentation of wide-band services. This system will be used to carry out long-distance image consultations for didactic or diagnostic purposes: For example, X rays deposited in Milan could be observed in a Rome hospital.

The first subproject, called "Structure of the Wideband Communications Network," deserves mention. It involves a program aimed at defining an overall outline for the division of the so-called images in movement, and consequently for images in normal and high-definition television.

A Detailed Map of the Objectives

Aldo Roveri, director of the CNR's finalized telecommunications project, commented on the state of research in this field. "All the projects," he explained, "were designed to develop laboratory prototypes. From this point of view, the industrial spin-offs for every single project are the same." Establishing a scale in terms of importance is therefore not possible because, according to Roveri, "the subprojects are complementary."

It is possible, however, to draw a map of the objectives of the four subprojects now underway. The first on the list concerns "Technology for Wideband Communications." The two research topics involve the study of technology for optical commutation and the technology and systems for coherent optical communications. The subproject called "Technology of the Terminals," involves the development of four programs. These include the so-called interpersonal terminal, the telematics terminal, the digitalization of television signals, and the study of numerical high-definition television. The program dealing with "Wideband Access and Interconnection Techniques" involves the development of prototypes for the AIM (Asynchronous Transfer of Information) autocommutator and for the definition of the autocommutator's access area. The "Experimental Developments" subproject involves the construction of a network that will link Rome, Milan, Florence, Pisa, and Turin. This network will be at the disposal of the CNR and the scientific community, and will be used to test wideband services. This system will be used to carry out long-distance image consultations for diagnostic purposes, for example, it will be possible to check X rays or clinical tests between one hospital and another.

In addition to the CNR, the project will include 22 other participants including consortia, private companies, and State-controlled companies.

Italsat Program, Testing Schedule Described

90MI0151 Rome AIR PRESS in Italian
31 Jan 90 pp 253-256

[Text] Selenia Spazio has completed the Italsat flight unit, which is about to leave the Rome-based Satellite

Integration Center for testing at Intespace in Toulouse. The flight unit will then be transferred to the Kourou launching site where the launch is scheduled for next September. This Italian telecommunications satellite, an ASI (Italian Space Agency) program carried out under the guidance and coordination of the Ministry for Universities and Scientific and Technological Research, was largely developed in Italy. The prime contractor, Selenia Spazio (IRI [Institute for the Reconstruction of Industry]-Finmeccanica group), was responsible for the design, development, and construction of the satellite, for its missions, and for the ground-based liaison and control stations.

Italsat is a preoperational experimental system, and centers on a telecommunications satellite operating at high frequencies (20-30 GHz) with digital technology and on a series of ground-based liaison and control stations designed to handle part of the national telephone traffic. The system will be integrated into the Italian ground network to improve its flexibility and operability. In fact, the characteristics of the satellite make it an authentic telephone exchange that can assign telephone channels on the basis of traffic requirements as a result of its switching functions. Italsat has a capacity of 12,000 telephone channels that will be distributed through six bands covering the entire national territory. Telephone traffic in peak hours will be eased by the satellite's flexibility, which prevents the overloading of the ground network and resumes traffic in case of breakdowns or emergencies caused by natural disasters. Italsat's ground stations will give rise to the introduction and development of new telecommunications and digital integrated network services to meet the needs of the 90's. In addition to the 20-30 GHz digital telephone services, Italsat will carry out another two missions. The first involves national 20-30 GHz user services (videoconferencing, newspaper transmission, computer networking, emergency connections). The second involves European 40-50 GHz propagation experiments to collect data on the performance of these extremely high frequencies that will be used in future telecommunications systems.

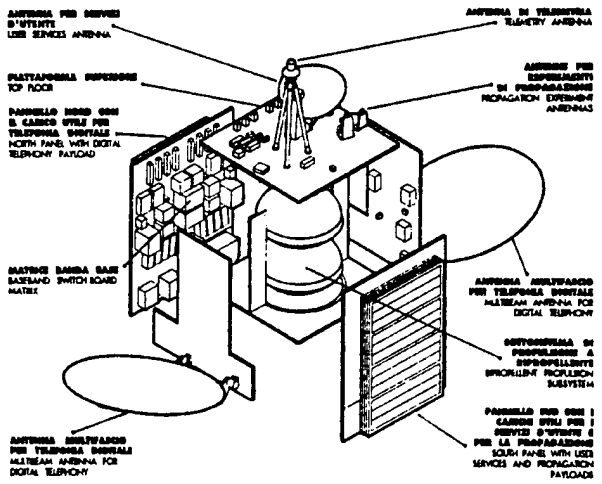
When the system was presented in Rome, ASI president, Professor Luciano Guerriero, stated that Italsat was the outcome of a "vocation" in space telecommunications that began with the introduction of Sirio. This first satellite "was a good choice," Prof. Guerriero stated, "because it demonstrated the abilities of Italian companies involved in space activities." Attention is currently being focused on second generation space telecommunications that can compete with optical fibers and submarine cables. Prof. Guerriero also noted that "Italsat was an ambitious project from the beginning," and the results show that "this choice was not a mistake," despite the technological, system, and organizational hurdles that had to be overcome "because initially the ASI did not exist." These obstacles were overcome "within a reasonable timeframe" and the Italsat flight unit was completed according to schedule. As Mr. Andrea Pucci, managing director of Selenia Spazio, pointed out, the budget was also respected, a fact which Prof. Guerriero considers "a record."

According to Dr. Pucci, Italsat is "the most important space program ever carried out by Italy." He wished to stress that the participation of non-Italian companies in Italsat (28 percent European, 12 percent non-European including Japan's Mitsubishi) is due to the fact that when the program was launched, some components were not available, either in Italy or in the rest of Europe. The current situation is different, and "there is no longer any technological obstacle to the program becoming entirely European." Dr. Pucci stated that Selenia Spazio's commitment was considerable, as "two million working hours" were devoted to Italsat involving 250 people, 50 of whom worked on the ground stations. IRI-Finmeccanica designed and built 145 of Italsat's 621 components and drew up 24,000 documents.

Dr. Pucci emphasized that "at this point no one can say that Italy is unable to carry out a complex space program." He recalled that because of the Italsat experience, Italy is now in a position to apply for participation in other important satellite programs at the international level. The Italsat contract is worth 646 billion lire, 410 for the satellite, 136 for the ground stations to carry out network tests and propagation experiments, and 100 for the launch. Another 20 billion lire are expected to be spent for insurance. Italsat will have a geostationary orbiting life of seven years. The first four years will involve experiments on the new extremely high 20-30 and 40-50 GHz bands to be carried out by the Ministry of Postal Services' Higher Institute of Telecommunications. Italsat will then be "handed over" to SIP [Italian State-Owned Telephone Company] for use in its network at a preoperational level, that is, without the absolute reliability required for public service.

An Italsat 2 is envisaged for the future. By February or March, the ASI will prepare a contract for a second Italsat flight unit to be launched in 1993 for two possible purposes. Either as a substitute for Italsat 1, in case of the latter's failure, or as a means of expanding service capacity by bringing the total number of available channels to 24,000.

The Italsat experience shows that the Italsat "formula" may be used for other purposes: At the national level, for Sarit (operational satellite for live television broadcasting) and Sicral (telecommunications satellite for military and civil protection uses); and at the international level, for the TM [Technology Mission] European telecommunications satellites (formerly known as SAT-2) and for the DRS (Data Relay Satellites).



Principal Elements of the Italian Satellite

Italsat Developments	
Signature of the contract	1985
Design and development	June-December 1987
Construction, integration, and thermostructural model tests	June-December 1987
Engineering model	December 1987-December 1988
Flight unit	June 1988-June 1990
Launch campaign (Kourou)	August 1990-September 1990

Principal Phases in Ground Station Construction	
20-30 GHz prototype station for telephone and user services	1987 to mid-1990
Telemetering and control stations	mid-1989 to fall 1990
Beacon stations	mid-1989 to fall 1990
Propagation stations	mid-1988 to late 1991
ASST* traffic stations (4)	
mid-1990 to late 1992	
SIP traffic stations (3)	1991 to late 1992

* State Telephone Services Agency

The Test Series

1990 to mid-February—Transport by eight trucks and arrival at Intespace. Optical alignments (sensors, antennas, engines) and mass property tests (weight, definition of the center of gravity and moments of inertia, balancing).

Mid-February to mid-March—Acoustic tests, vibrations, center of gravity, antenna and solar panel layout, alignments.

Mid-March to late April —Acoustic tests, vibrations, antenna and solar panels layout, alignments.

Late April to mid-May—Electrical verification tests.

Mid-May to late June—Thermal vacuum tests (to verify the operational conditions of the satellite in space under special thermal conditions).

Late June to mid-July—Final reference tests to assess the satellite's performance.

Late July to mid-August—Preparation and air shipment of the satellite and testing equipment to Kourou.

Mid-August to late September—Launch campaign.

NORWAY

Trade Sanctions Put Alcatel Delivery to China on Hold

90WT0073A Oslo AFTENPOSTEN in Norwegian 3 Apr 90 p 17

[Article by Ulf Peter Hellstrom: "China Agreement in Trouble"]

[Text] The agreement concerning delivery of telephone switching centers to China which are valued at approximately 200 million kroner has become a difficult issue for the government. AFTENPOSTEN learned that the matter came before the government conference yesterday. No decision has been reached yet.

The telecommunication company Alcatel STK is pushing for release of the various credits which are required before the company can start its shipments to China. The shipments were agreed on prior to the massacre in June of last year which led to trade restrictions by Norway.

"We may indeed miss a number of shipments to China if this matter drags on," Thor Viksveen, communications director of Alcatel STK says in response to a question by AFTENPOSTEN.

The telecommunications company is concerned since the shipments to China were supposed to help secure employment in Okern, Oslo, among other places. Alcatel has been delivering telephone exchange centers of the 12 System series to the Norwegian telecommunications network. These shipments are gradually coming to an end, and Alcatel STK has to fight against competitors Ericsson and Siemens for a new billion kroner contract with the Norwegian telecommunications network for 1990-95.

The plan was that Alcatel STK would supply telephone exchange centers with a total capacity of 100,000 telephone lines to the phone system in the Henan province as well as 30,000 lines to the Jilin province. The telecommunications company was also negotiating with the authorities in the Zhejian province.

"These contacts with China constitute a break-through for our System 12 switching centers in the export markets. Increased exports help keep up employment in Norway," says Viksveen.

Last year, a number of West European countries including Norway came together to make numerous contracts with different Chinese authorities. These contracts were put on hold after the massacre in Tienanmen Square in the Chinese capital Beijing. This affected in particular agreements where a variety of loans—including government grants—constitute a major part of financing.

During the past several months, however, several countries have eased their restrictions on trade with China. This is true in particular of agreements which were made shortly before the massacre in early June of last year. At the same time, Alcatel STK has received clear signals from their Chinese contract partners that the Chinese are becoming increasingly impatient. Either financing must come through as agreed, or the Chinese will feel free to cancel the contract and buy the equipment from other Alcatel companies or from the competition.

According to what AFTENPOSTEN has learned, government circles consider this issue a "difficult matter." On the one hand, there is concern about the Norwegian company and employment in Norway, on the other hand, there is reluctance to make a decision which could be interpreted as a more general liberalization—or normalization—of trade relations with China, when such a change in attitude has not been discussed and clarified properly, in particular with the parliamentary groups of the government parties in the Storting.

Developmental Aid Minister Tom Vraalsen also tells AFTENPOSTEN that the authorities have taken this matter under consideration, but he did not wish to comment any further.

"The matter is still under consideration," says Vraalsen. In response to a question, the cabinet minister confirms that the authorities are following the developments regarding the handling of trade with China in other countries as well.

"If the Alcatel STK matter is dragging on, could the company lose the contract?"

"Naturally, this will also play a part in our considerations," says Vraalsen.

UNITED KINGDOM

UK Joins ESA Telecommunications Program

90AN0277 Chichester INTERNATIONAL TELECOMMUNICATIONS INTELLIGENCE in English 9 Apr 90 pp 2-3

[Text] Minister for Industry and Enterprise Douglas Hogg has announced that the United Kingdom has joined a new European Space Agency (ESA) programme.

The 10-year research programme, expected to cost a total of 1.1 billion pounds, is aimed at securing a competitive position for Europe in telecommunications and data relay applications by the mid-1990s.

The UK has proposed an investment of 32 million pounds for the first stage of the programme, and an increase in government spending on space research from 140 million pounds to 150 million pounds. The 32 million pounds investment will be primarily targetted at advanced land mobile services, optical (laser) communications, ion propulsion and nickel hydrogen cells for satellites proposed under the first and second stages.

Participation by the UK reverses a decision in 1988 to abandon support for space telecommunications and concentrate on Earth observation from space.

Under the first stage of the programme, ESA has reached agreement with its 13 member-countries to launch a Technology Mission (TM) satellite in 1994. The initial stage will cover:

- Mobile communications via satellite dishes mounted on a car, train or plane.
- Intelligent computer systems in satellites for on-board switching and control of routing through spot beams to small dishes and good re-use of radio frequencies.
- Direct laser communication between satellites in orbit.
- Improved systems for worldwide capture of data from low Earth-orbiting remote sensing and other satellites.

The second phase will involve the launch of a Data Relay Satellite (DRS) in 1998. The DRS element is part of an ESA infrastructure programme supporting a number of programmes, including the major new earth observation missions and the Columbus programme.